

NASA Technical Memorandum 100723

Crustal Dynamics Project Data Analysis - 1988

VLBI Geodetic Results 1979-87

(NASA-TM-100723) CRUSTAL DYNAMICS PROJECT
DATA ANALYSIS, 1988: VLBI GEODETIC RESULTS,
1979 - 1987 (NASA) 233 p CSCL 08G

N89-17975

G3/46 Unclass
0197248

C. Ma, J. W. Ryan, and D. Caprette

FEBRUARY 1989

The NASA logo, consisting of the word "NASA" in a bold, sans-serif font, with a stylized "N" and "A".

NASA Technical Memorandum 100723

Crustal Dynamics Project Data Analysis - 1988

***VLBI Geodetic Results
1979-87***

**C. Ma and J. W. Ryan
*Goddard Space Flight Center
Greenbelt, Maryland***

**D. Caprette
*ST Systems Corporation
Lanham, Maryland***



**National Aeronautics and
Space Administration**

**Goddard Space Flight Center
Greenbelt, Maryland 20771**

1989

Table of Contents

I.	INTRODUCTION.....	1
II.	OBSERVATIONS.....	1
	A. Instrumentation.....	1
	B. Mobile Observations.....	2
	C. Phase Delay Observations.....	2
	D. Observing Configurations.....	2
III.	DATA ANALYSIS METHODS.....	3
	A. Processing and Data Handling.....	3
	B. Models.....	4
	C. The GLOBL Analysis System.....	4
	D. Parametrization of the Site Troposphere and Clock....	5
	E. Earth Orientation Parameters.....	5
	F. VLBI Observables.....	6
IV.	DATA ANALYSIS RESULTS.....	6
	A. The GLB401 Solution.....	6
	B. The GLB405 Solution.....	7
	C. Formal Errors.....	9
V.	REFERENCES.....	10

TABLES and PLOTS

1.0	STATIONS and SITES.....	1-1
	1.1 VLBI Observing Stations	1-2
	1.2 Mobile VLBI Sites.....	1-4
2.0	SUMMARY of EXPERIMENTS by DATABASE and SITE.....	2-1
	2.1 Summary of Experiments.....	2-2
3.0	SOURCE COORDINATES.....	3-1
	3.1 Source Coordinates from GLB401 Solution.....	3-2
4.0	SITE VELOCITIES from SOLUTION GLB401.....	4-1
	4.1 Site Velocities.....	4-2
5.0	SITE POSITIONS by YEAR.....	5-1
	5.1 Site Positions for 1979.....	5-2
	5.2 Site Positions for 1980.....	5-4
	5.3 Site Positions for 1981.....	5-6
	5.4 Site Positions for 1982.....	5-8
	5.5 Site Positions for 1983.....	5-10
	5.6 Site Positions for 1984.....	5-12
	5.7 Site Positions for 1985.....	5-14
	5.8 Site Positions for 1986.....	5-16
	5.9 Site Positions for 1987.....	5-18
	5.10 Site Positions for 1988.....	5-20

6.0	BASLINE STATISTICS SUMMARIES.....	6-1
6.1	Length Statistical Summary, Mean.....	6-2
6.2	Length Statistical Summary, Rate of Change.....	6-8
6.3	Transverse Statistical Summary.....	6-11
6.4	Vertical Statistical Summary, Mean.....	6-17
7.0	BASLINE EVOLUTION.....	7-1
	Plots	
	BLKBUTTE TO MOJAVE12.....	7-2
	BLKBUTTE TO VNDNBERG.....	7-3
	FORT ORD TO HATCREEK.....	7-4
	FORT ORD TO MOJAVE12.....	7-5
	FORT ORD TO OVRO 130.....	7-6
	FORT ORD TO VNDNBERG.....	7-7
	GILCREEK TO HATCREEK.....	7-8
	GILCREEK TO HAYSTACK.....	7-9
	GILCREEK TO HRAS 085.....	7-10
	GILCREEK TO KASHIMA.....	7-11
	GILCREEK TO KAUAI.....	7-12
	GILCREEK TO KODIAK.....	7-13
	GILCREEK TO KWAJAL26.....	7-14
	GILCREEK TO MOJAVE12.....	7-15
	GILCREEK TO NOME.....	7-16
	GILCREEK TO ONSALA60.....	7-17
	GILCREEK TO OVRO 130.....	7-18
	GILCREEK TO SOURDOGH.....	7-19
	GILCREEK TO VNDNBERG.....	7-20
	GILCREEK TO WESTFORD.....	7-21
	GILCREEK TO WETTZELL.....	7-22
	GILCREEK TO YAKATAGA.....	7-23
	GOLDVENU TO OVRO130.....	7-24
	HATCREEK TO HAYSTACK.....	7-25
	HATCREEK TO HRAS 085.....	7-26
	HATCREEK TO KASHIMA.....	7-27
	HATCREEK TO KAUAI.....	7-28
	HATCREEK TO MOJAVE12.....	7-29
	HATCREEK TO MON PEAK.....	7-30
	HATCREEK TO OVRO 130.....	7-31
	HATCREEK TO PLATTVIL.....	7-32
	HATCREEK TO PRESIDIO.....	7-33
	HATCREEK TO PT REYES.....	7-34
	HATCREEK TO VNDNBERG.....	7-35
	HATCREEK TO WESTFORD.....	7-36
	HATCREEK TO YUMA.....	7-37
	HAYSTACK TO HRAS 085.....	7-38
	HAYSTACK TO KASHIMA.....	7-39
	HAYSTACK TO MOJAVE12.....	7-40
	HAYSTACK TO NRAO 140.....	7-41
	HAYSTACK TO ONSALA60.....	7-42
	HAYSTACK TO OVRO 130.....	7-43
	HAYSTACK TO PLATTVIL.....	7-44

HAYSTACK TO WESTFORD.....	7-45
HAYSTACK TO WETTZELL.....	7-46
HRAS 085 TO MOJAVE12.....	7-47
HRAS 085 TO MON PEAK.....	7-48
HRAS 085 TO NRAO 140.....	7-49
HRAS 085 TO ONSALA60.....	7-50
HRAS 085 TO OVRO 130.....	7-51
HRAS 085 TO PLATTVIL.....	7-52
HRAS 085 TO QUINCY.....	7-53
HRAS 085 TO RICHMOND.....	7-54
HRAS 085 TO VNDNBERG.....	7-55
HRAS 085 TO WESTFORD.....	7-56
HRAS 085 TO WETTZELL.....	7-57
HRAS 085 TO YUMA.....	7-58
JPL MV1 TO MOJAVE12.....	7-59
JPL MV1 TO OVRO 130.....	7-60
JPL MV1 TO PBLOSSOM.....	7-61
JPL MV1 TO PINFLATS.....	7-62
JPL MV1 TO VNDNBERG.....	7-63
KASHIMA TO KAUAI.....	7-64
KASHIMA TO KWAJAL26.....	7-65
KASHIMA TO MOJAVE12.....	7-66
KASHIMA TO ONSALA60.....	7-67
KASHIMA TO VNDNBERG.....	7-68
KASHIMA TO WESTFORD.....	7-69
KASHIMA TO WETTZELL.....	7-70
KAUAI TO KWAJAL26.....	7-71
KAUAI TO MOJAVE12.....	7-72
KAUAI TO VNDNBERG.....	7-73
KWAJAL26 TO MOJAVE12.....	7-74
KWAJAL26 TO VNDNBERG.....	7-75
MOJAVE12 TO MON PEAK.....	7-76
MOJAVE12 TO ONSALA60.....	7-77
MOJAVE12 TO OVRO 130.....	7-78
MOJAVE12 TO PBLOSSOM.....	7-79
MOJAVE12 TO PINFLATS.....	7-80
MOJAVE12 TO PLATTVIL.....	7-81
MOJAVE12 TO PRESIDIO.....	7-82
MOJAVE12 TO PT REYES.....	7-83
MOJAVE12 TO QUINCY.....	7-84
MOJAVE12 TO SANPAULA.....	7-85
MOJAVE12 TO VNDNBERG.....	7-86
MOJAVE12 TO WESTFORD.....	7-87
MOJAVE12 TO WETTZELL.....	7-88
MOJAVE12 TO YUMA.....	7-89
MON PEAK TO OVRO 130.....	7-90
MON PEAK TO QUINCY.....	7-91
MON PEAK TO VNDNBERG.....	7-92
MON PEAK TO YUMA.....	7-93
NOME TO VNDNBERG.....	7-94
NRAO 140 TO OVRO 130.....	7-95
ONSALA60 TO OVRO 130.....	7-96

ONSALA60	TO RICHMOND.....	7-97
ONSALA60	TO WESTFORD.....	7-98
ONSALA60	TO WETTZELL.....	7-99
OVRO 130	TO PBLOSSOM.....	7-100
OVRO 130	TO PINFLATS.....	7-101
OVRO 130	TO PLATTVIL.....	7-102
OVRO 130	TO PRESIDIO.....	7-103
OVRO 130	TO PT REYES.....	7-104
OVRO 130	TO QUINCY.....	7-105
OVRO 130	TO VNDNBERG.....	7-106
OVRO 130	TO WESTFORD.....	7-107
OVRO 130	TO WETTZELL.....	7-108
OVRO 130	TO YUMA.....	7-109
PBLOSSOM	TO VNDNBERG.....	7-110
PINFLATS	TO VNDNBERG.....	7-111
PINFLATS	TO YUMA.....	7-112
PLATTVIL	TO WESTFORD.....	7-113
PRESIDIO	TO VNDNBERG.....	7-114
PT REYES	TO VNDNBERG.....	7-115
QUINCY	TO VNDNBERG.....	7-116
RICHMOND	TO WESTFORD.....	7-117
RICHMOND	TO WETTZELL.....	7-118
SANPAULA	TO VNDNBERG.....	7-119
SOURDOGH	TO VNDNBERG.....	7-120
VNDNBERG	TO YUMA.....	7-121
WESTFORD	TO WETTZELL.....	7-122

Tables

ALGOPARK	TO GILCREEK.....	7-123
ALGOPARK	TO HRAS 085.....	7-123
ALGOPARK	TO MOJAVE12.....	7-123
ALGOPARK	TO PENTICTN.....	7-123
ALGOPARK	TO WESTFORD.....	7-124
ALGOPARK	TO YELLOWKN.....	7-124
BLKBUTTE	TO HATCREEK.....	7-124
BLKBUTTE	TO HRAS 085.....	7-124
BLKBUTTE	TO MON PEAK.....	7-125
BLKBUTTE	TO OCOTILLO.....	7-125
BLKBUTTE	TO OVRO 130.....	7-125
BLKBUTTE	TO PRESIDIO.....	7-125
BLKBUTTE	TO PT REYES.....	7-126
CHLBOLTN	TO HAYSTACK.....	7-126
CHLBOLTN	TO HRAS 085.....	7-126
CHLBOLTN	TO ONSALA60.....	7-127
CHLBOLTN	TO OVRO 130.....	7-127
DEADMANL	TO MOJAVE12.....	7-127
DEADMANL	TO SANPAULA.....	7-128
DEADMANL	TO VNDNBERG.....	7-128
DSS15	TO GOLDVENU.....	7-128
DSS15	TO MOJ 7288.....	7-128
DSS15	TO MOJAVE12.....	7-129
DSS15	TO OVR 7853.....	7-129

DSS15	TO OVRO 130.....	7-129
EFLSBERG	TO HAYSTACK.....	7-129
EFLSBERG	TO HRAS 085.....	7-130
EFLSBERG	TO NRAO 140.....	7-130
EFLSBERG	TO ONSALA60.....	7-130
EFLSBERG	TO OVRO 130.....	7-131
EFLSBERG	TO ROBLED32.....	7-131
EFLSBERG	TO WESTFORD.....	7-131
ELY	TO HATCREEK.....	7-131
ELY	TO HRAS 085.....	7-132
ELY	TO MOJAVE12.....	7-132
ELY	TO OVRO 130.....	7-132
ELY	TO PLATTVIL.....	7-132
ELY	TO VNDNBERG.....	7-133
ELY	TO YUMA.....	7-133
FLAGSTAF	TO HATCREEK.....	7-133
FLAGSTAF	TO HRAS 085.....	7-133
FLAGSTAF	TO MOJAVE12.....	7-134
FLAGSTAF	TO PLATTVIL.....	7-134
FLAGSTAF	TO VERNAL.....	7-134
FORT ORD	TO HRAS 085.....	7-134
FORT ORD	TO JPL MV1.....	7-135
FORT ORD	TO MON PEAK.....	7-135
FORT ORD	TO PRESIDIO.....	7-135
FORT ORD	TO PT REYES.....	7-135
GILCREEK	TO PENTICTN.....	7-136
GILCREEK	TO PLATTVIL.....	7-136
GILCREEK	TO RICHMOND.....	7-136
GILCREEK	TO SESHAN25.....	7-136
GILCREEK	TO SHANGHAI.....	7-137
GILCREEK	TO SNDPOINT.....	7-137
GILCREEK	TO WHTHORSE.....	7-137
GILCREEK	TO YELLOWKN.....	7-137
GOLDVENU	TO HRAS 085.....	7-138
GOLDVENU	TO MOJ 7288.....	7-138
GOLDVENU	TO MOJAVE12.....	7-138
GOLDVENU	TO ONSALA60.....	7-138
GOLDVENU	TO OVR 7853.....	7-139
GOLDVENU	TO PRESIDIO.....	7-139
GOLDVENU	TO PT REYES.....	7-139
GOLDVENU	TO QUINCY.....	7-139
GOLDVENU	TO VNDNBERG.....	7-140
GOLDVENU	TO WESTFORD.....	7-140
HARTRAO	TO HRAS 085.....	7-140
HARTRAO	TO MEDICINA.....	7-140
HARTRAO	TO ONSALA60.....	7-141
HARTRAO	TO RICHMOND.....	7-141
HARTRAO	TO WESTFORD.....	7-142
HARTRAO	TO WETTZELL.....	7-142
HATCREEK	TO JPL MV1.....	7-142
HATCREEK	TO KODIAK.....	7-143
HATCREEK	TO MAMMOTHL.....	7-143

HATCREEK	TO	QUINCY.....	7-143
HATCREEK	TO	SNDPOINT.....	7-143
HATCREEK	TO	VERNAL.....	7-144
HATCREEK	TO	YAKATAGA.....	7-144
HAYSTACK	TO	MARPOINT.....	7-144
HAYSTACK	TO	ROBLED32.....	7-145
HRAS 085	TO	JPL MV1.....	7-145
HRAS 085	TO	KASHIMA.....	7-145
HRAS 085	TO	MAMMOTHL.....	7-145
HRAS 085	TO	MARPOINT.....	7-146
HRAS 085	TO	MEDICINA.....	7-146
HRAS 085	TO	PENTICTN.....	7-146
HRAS 085	TO	PINFLATS.....	7-146
HRAS 085	TO	PRESIDIO.....	7-147
HRAS 085	TO	PT REYES.....	7-147
HRAS 085	TO	ROBLED32.....	7-147
HRAS 085	TO	VERNAL.....	7-147
HRAS 085	TO	YELLOWKN.....	7-148
JPL MV1	TO	MAMMOTHL.....	7-148
JPL MV1	TO	MON PEAK.....	7-148
JPL MV1	TO	QUINCY.....	7-148
KASHIMA	TO	RICHMOND.....	7-149
KASHIMA	TO	SESHAN25.....	7-149
KASHIMA	TO	SHANGHAI.....	7-149
KAUAI	TO	SESHAN25.....	7-149
KAUAI	TO	SHANGHAI.....	7-150
KODIAK	TO	MOJAVE12.....	7-150
KODIAK	TO	NOME.....	7-150
KODIAK	TO	VNDNBERG.....	7-150
MAMMOTHL	TO	MOJAVE12.....	7-151
MAMMOTHL	TO	OVRO 130.....	7-151
MAMMOTHL	TO	VNDNBERG.....	7-151
MARPOINT	TO	ONSALA60.....	7-151
MARPOINT	TO	OVRO 130.....	7-152
MARPOINT	TO	WESTFORD.....	7-152
MEDICINA	TO	ONSALA60.....	7-152
MEDICINA	TO	RICHMOND.....	7-152
MEDICINA	TO	WESTFORD.....	7-153
MEDICINA	TO	WETTZELL.....	7-153
MOJ 7288	TO	MOJAVE12.....	7-153
MOJ 7288	TO	OVR 7853.....	7-153
MOJ 7288	TO	OVRO 130.....	7-154
MOJAVE12	TO	OCOTILLO.....	7-154
MOJAVE12	TO	OVR 7853.....	7-154
MOJAVE12	TO	PVERDES.....	7-154
MOJAVE12	TO	RICHMOND.....	7-155
MOJAVE12	TO	SNDPOINT.....	7-155
MOJAVE12	TO	SOURDOGH.....	7-155
MOJAVE12	TO	VERNAL.....	7-155
MOJAVE12	TO	YAKATAGA.....	7-156
NOME	TO	SNDPOINT.....	7-156
NRAO 140	TO	ONSALA60.....	7-156

	NRA0 140 TO WESTFORD.....	7-156
	OCOTILLO TO OVRO 130.....	7-157
	OCOTILLO TO PVERDES.....	7-157
	OCOTILLO TO VNDNBERG.....	7-157
	ONSALA60 TO ROBLED32.....	7-157
	OVR 7853 TO OVRO 130.....	7-158
	OVRO 130 TO PVERDES.....	7-158
	OVRO 130 TO SANPAULA.....	7-158
	PENTICTN TO YELLOWKN.....	7-158
	PINFLATS TO PVERDES.....	7-159
	PLATTVIL TO VERNAL.....	7-159
	PRESIDIO TO PT REYES.....	7-159
	PRESIDIO TO YUMA.....	7-159
	PT REYES TO YUMA.....	7-160
	PVERDES TO VNDNBERG.....	7-160
	ROBLED32 TO WESTFORD.....	7-160
	SNDPOINT TO VNDNBERG.....	7-160
	SOURDOGH TO WHTHORSE.....	7-161
	SOURDOGH TO YAKATAGA.....	7-161
	VNDNBERG TO WHTHORSE.....	7-161
	VNDNBERG TO YAKATAGA.....	7-161
8.0	SITE COORDINATES.....	8-1
9.0	EARTH ROTATION RESULTS from SOLUTION GLB401.....	9-1
	Plots	
	CDP VLBI UT1 - TAI.....	9-2
	CDP VLBI Polar Motion.....	9-3
10.0	NUTATION ADJUSTMENTS from SOLUTION GLB401.....	10-1
	Plots	
	CDP VLBI Nutation Offsets to IAU 1980.....	10-2

CRUSTAL DYNAMICS PROJECT DATA ANALYSIS - 1988

I. INTRODUCTION

This report documents the results obtained by the Goddard VLBI Data Analysis Team from the analysis of the Mark III VLBI geodetic data acquired by the Crustal Dynamics Project (CDP) between 1979 and the end of 1987. Data from both fixed stations and mobile sites are included. These results are available from the CDP Data Information System (CDP-DIS) in both printed and machine-readable form.

This report and the method of analysis differ significantly from those of previous years. The fixed and mobile data are combined in the analysis and presented together. Only the VLBI group delay observable is used in the analysis. Much of the material which previously appeared in tabular form is now presented graphically to give the user greater insight into data quality and geodynamic implications. All the underlying data are available in the machine-readable version of this report on PC floppy or computer tape. Enhancements to the analysis system make it possible to estimate site velocities directly; annual site positions derived from these velocities are tabulated for ease of interpolation. The replacement of the older Marini tropospheric model with the improved CfA 2.2 model causes a downward revision in linear scale of ~3 parts per billion. Rates of baseline change are not otherwise significantly affected. A new parametrization of the troposphere to model short-term fluctuations significantly improves the post-fit residuals and the overall consistency of baseline evolution. Each section of the report begins with a page which describes the section contents in detail.

The results presented here are complete in that they include all available relevant VLBI data and supersede results given in previous reports. The values were estimated from two new least-squares adjustments designated GLB401 and GLB405, which are discussed below.

II. OBSERVATIONS

A. Instrumentation

The Mark III instrumentation is described in detail in Rogers *et al.* (1983) and Clark *et al.* (1985). Its salient characteristic is the ability to record up to 28 channels simultaneously, each 2 MHz in bandwidth. The current standard CDP practice is to record 14 channels in the forward direction and the remaining 14 in the backward direction with 8 channels applied to X-band (8.4 GHz) and 6 channels to S-band (2.3 GHz). At stations equipped with high density heads, this procedure is repeated twelve times on a single tape, moving the record heads slightly for each pair of passes. Observations run from 100 to 800 seconds. Realtime logging of barometric pressure, temperature, relative humidity, and cable length calibrations is an integral part of the Mark III system. Hydrogen masers provide both time and frequency for all observing sessions. The receivers have 400-MHz bandwidth at X-band and 80 MHz at S-band. A single phase calibration frequency is used in each recorded channel to remove instrumental dispersion.

B. Mobile observations

The results presented here are the complete mobile data set for the stated period. Earlier single frequency experiments are unusable because of the inability to calibrate the ionosphere.

Mobile measurements use the Mark III recording, logging and timing systems described above for all VLBI observations. The antennas are mounted on platforms and the electronics are contained in trailers, both of which can be transported by truck, air, or barge. Mobile observations always employ several fixed base stations as well as one or more mobile units. (The unit designated MV-1, the original mobile system, is now permanently stationed at the Vandenberg Air Force Base and is used as a base station.) In addition to VLBI observations, the vector from a ground geodetic monument to the VLBI reference point of the mobile antenna is recorded for each session by the observers. The method used to measure eccentricities was developed by the National Geodetic Survey (NGS). A single reference geodetic monument is used at each mobile site although the antenna may actually have been placed over different monuments for different site occupations. The eccentricity data are compiled by the NGS for the CDP in a file named ECCDAT and are not contained in this report.

All mobile results are referred to ground monuments using the eccentricity data obtained during each observing session. The results for MV-1 at Vandenberg are also referred to a ground monument.

C. Phase delay observations

In two sessions, \$84JAN07X and \$84JAN14XP, phase delay data were used. The intrinsic precision of phase delay is considerably better than group delay, but the small size of the phase delay ambiguity limits its geodetic applications to short baselines or special schedules.

D. Observing configurations

The CDP makes VLBI measurements in several geographic areas on different scales, as described below. In addition, the NGS coordinates the IRIS program, which observes for 24 hours at regular intervals to monitor earth rotation. Data from IRIS, its predecessor POLARIS, and the CDP are the basis for the current analysis. There exist high-precision Mark III VLBI data which are not included here. These include CDP tests and source surveys, IRIS daily UT1 observations, NGS measurements in the National Crustal Motion Network, and observations sponsored by the U.S. Naval Observatory and Naval Research Laboratories in the areas of astrometry and earth rotation.

The purposes of the various station configurations include:

North American Plate Stability, transcontinental sessions designed to measure the internal stability of the North American Plate.

Atlantic, U.S. to Europe sessions designed to measure motion between North America and Europe.

Pacific, sessions designed to measure baselines in the Pacific Basin.

Polar, sessions involving stations in Europe, the conterminous U.S., Alaska, and Japan. These sessions are undertaken to link the global VLBI reference frame.

South Africa, a series of observing sessions carried out by the NGS using HARTRAO and stations in Europe and the U.S.

California, mobile sessions to measure deformation at the boundary zone between the Pacific and North American plates.

Western U.S., mobile sessions to measure deformation over the Basin and Range Province.

Alaska, mobile sessions to monitor motions in several seismic gaps near the boundary between the Pacific and North American plates.

Advance Technology Development, sessions to test and improve observing strategies using fixed stations in North America.

IRIS and POLARIS, NGS sessions designed to monitor earth rotation. These sessions began in November 1980 with HAYSTACK and HRAS 085 and were scheduled every seven days. ONSALA60 participated when possible on a monthly basis. In August 1983 operations were increased to five-day intervals. Two new stations, RICHMOND and WETTZELL, were brought on-line in late 1983 and became fully operational in 1984. Currently IRIS undertakes one 24-hour session every five days with WESTFORD, HRAS 085, RICHMOND, and WETTZELL. Whenever possible, ONSALA60 continues to observe monthly. MEDICINA also participates occasionally.

III. DATA ANALYSIS METHODS

A. Processing and data handling

Nearly all the CDP data discussed here were correlated by the Haystack Mark III correlator. Some IRIS data were correlated at the Max Planck Institute for Radio Astronomy in Bonn (FRG). Beginning in 1986 most IRIS data were processed at the Washington correlator located at the U.S. Naval Observatory. All three correlators have identical designs, but their capabilities depend on the number of tape drives and high-density heads. Some data involving KASHIMA were correlated at Kashima using the Japanese K-3 correlator. For the purposes of this report the output of the four Mark III-compatible correlators can be considered indistinguishable. The output of these correlators is sent to either the analysis center at the Goddard Space Flight Center or a similar center at the NGS in Rockville, MD, where the data are organized by session and frequency band into Mark III data bases. Calibration data, solar system ephemerides, *a priori* parameter values, partial derivatives, and theoretical delays and rates are added to each data base prior to actual data analysis. In the analysis process information about editing, ambiguity resolution, solution parametrization, and data-variance-modification is added to the data bases. The final data base files are available to investigators from the CDP-DIS. The Mark III Data Base System utilities required to read the files have been implemented on HP 1000 and VAX 11/780 computer systems.

B. Models

The models adhere generally to the MERIT standards (Melbourne *et al.*, 1983). The precession and nutation models used in the data analysis are the J2000.0 and IAU 1980 models, respectively. The *a priori* earth orientation parameters from BIH Circular D and its successor are interpolated to each observation epoch then modified by the standard MERIT model for short-period tidal variations in UT1. The tidal potential used to compute the effect of solid earth tides is calculated using the MIT PEP ephemeris; the values of the Love numbers are 0.60967 for Love h , 0.085 for Love l , and zero for the phase lag. General relativistic solar deflection is modeled using Einstein's value for γ . An axis offset model is applied for each antenna where the pointing axes do not intersect. The value of the speed of light is 299,792,458. m/sec. The geophysical and astronomical models are described in greater detail in NASA TM-79582 and are embodied in the program CALC developed by the Goddard VLBI group. CALC Version 6.0 was used for this analysis and includes a pole tide model.

Mark III observations are calibrated for the delay caused by charged particles in the line of sight (ionosphere and solar corona) by generating new observables which are linear combinations of the X-band and S-band observations. To the extent that the delay effects of charged particles have an inverse frequency-squared dependence, these new observables are free of charged particle effects.

In general the effects of tropospheric refraction are calibrated using the Cfa 2.2 model (Davis *et al.*, 1985), which requires measurements of local pressure, temperature, and relative humidity. In some cases valid meteorological measurements were not available and the Chao model, which requires only an average zenith-path-delay for each station, was used. Water vapor radiometer data were either unavailable or deemed not operational for the data presented here.

Cable calibration, i.e., corrections for variations in the electrical length of the cable carrying timing signals from the maser frequency standard to the receiver, was applied where available and useful.

C. The GLOBL analysis system

The GLOBL analysis system, developed at Goddard by W. E. Himwich, permits the adjustment of parameters using an arbitrarily large set of data within the memory limits of the Goddard VLBI group's minicomputer facility. GLOBL is an extension of the interactive SOLVE system developed by the Goddard VLBI group and used for all routine VLBI data analysis. After a data base for one observing session has been fully updated using SOLVE, a superfile retaining the necessary information is created. The complete set of superfiles is the potential input to GLOBL. GLOBL processes the selected superfiles sequentially, in each step applying arc parameter elimination and carrying the global parameters forward. Arc parameters are those relevant only to a single data base, e.g., clock and atmosphere parametrization for a single session, UT1 and polar motion, and daily nutation adjustments. Global parameters are those whose estimated values may be affected by more than one observing session, e.g., source positions and site velocities. Coefficients of the nutation series, the precession constant, and Love numbers of the solid earth tide are other possible global parameters. Depending on the

purpose of the GLOBL solution, station coordinates can be either global or arc parameters.

Since at each step GLOBL handles only the global parameters and arc parameters required for a single data base, large data sets can be analyzed. Current program and machine size constraints limit the maximum number of parameters to 1024 at one time. Sequential processing does entail two passes through the data. After the forward pass the values of the global parameters are known. The backward pass is necessary to recover the arc parameter values and the solution statistics. The two passes give a solution which is identical to a conventional one-step least-squares estimation of the entire ensemble of estimated parameters.

D. Parametrization of the site troposphere and clock

SOLVE has been enhanced to model short-term variations in the troposphere and clock at each site. For a given site the effects of tropospheric refraction not removed by the CfA model are modeled with a continuous, piecewise linear function. This function models the evolution of the site's residual tropospheric zenith path delay. The durations of the linear sections are specified for a given solution and are uniform. Durations from 20 minutes to the length of the observing session are possible, but a duration of 60 minutes has been found to provide the degrees of freedom needed to accommodate real, uncalibrated troposphere variations. The troposphere parameters estimated are the initial zenith path delay offset and the slopes of the linear sections. The initial offset is unconstrained, but the slopes are constrained to be near zero slope. The nominal slope constraint, based on a study of actual weather observations (Herring, personal communication; Treuhaft and Lanyi, 1987), is 50 ps/hour. However, over a wide range of constraints - 10 ps/hour to nearly unconstrained slope - the geodetic parameters are virtually insensitive to the size of the troposphere constraint, and the formal errors of the geodetic parameters are sensitive only at the level of a few percent. The critical element of the new troposphere estimation method is that it permits short-term variation in the residual troposphere while enforcing continuity in the estimation. These conditions are reasonable since the real troposphere cannot change state instantly. Similarly, the new clock estimation scheme is designed to model short-term, random clock variations while enforcing realistic physical constraints on continuity and rates of change. While the introduction of troposphere rates makes a significant (over 50% in some cases) improvement in the delay fit of individual sessions, clock rates do not produce a comparable improvement over the polynomials and diurnal sinusoids used previously. If both troposphere and clock rates are used, the large number of adjusted arc parameters substantially increases the time to do a GLOBL solution. For this report only constrained troposphere rates were applied, but constrained clock rates will be used in the future when advanced computer systems are available. A detailed discussion of clock estimation will be provided at that time.

E. Earth orientation parameters

The use of *a priori* earth orientation parameters (EOP) and the estimation of values in SOLVE have been extended. Different EOP series can be applied during analysis using the EOP partial derivatives to map from an external EOP file. In addition, uncertainties and correlations associated with the EOP series can be applied in an *a priori* covariance matrix. If EOP values and site positions

are simultaneously adjusted as arc parameters and an *a priori* EOP covariance is applied, then the uncertainties associated with the input EOP series will be correctly propagated into the baseline components. This capability is used to compute more accurate formal errors for the transverse baseline components, described later.

F. VLBI observables

Two VLBI observables were used in past analyses, group delay and phase delay rate. Tests with GLOBL solutions on large data sets show that the delay rates may add noise to the baseline measurements as indicated by the consistency of linear baseline evolution. Consequently only group delays were used for the results given in this report.

IV. DATA ANALYSIS RESULTS

A. The GLB401 solution

The purpose of the GLB401 solution was to estimate station positions and velocities from the ensemble of CDP and IRIS/POLARIS VLBI data. The solution included 299,039 group delays in 712 observing sessions, each approximately one day long. There were 445 global parameters (station positions, selected station velocities, and source positions) and 88519 arc parameters. The weighted rms fit was 50.6 ps and the reduced chi-square was 0.706. The arc parameters included clock and atmosphere parametrization, daily EOP values and daily nutation offsets in obliquity and longitude.

The celestial reference frame was defined by the precession and nutation models described above and by holding the right ascension of the quasar 3C273B fixed at its *a priori* value.

The terrestrial reference frame was defined by the *a priori* position of WESTFORD at the reference epoch 17 October 1980, the AMO-2 no-net-rotation model of global tectonic plate motion (Minster and Jordan, 1978), and the *a priori* azimuth from WESTFORD in Massachusetts to GILCREEK in Alaska. This reference frame is the same frame which underlies the AMO-2 model; therefore WESTFORD moves with the velocity given by the AMO-2 model and the azimuth from WESTFORD to GILCREEK changes following the same model. The origin of the coordinate system is defined by the position of WESTFORD at the reference epoch. This report gives the cartesian velocities of all the fixed stations and mobile sites in this frame. If the data for a station or site are insufficient to determine its velocity relative to others, the *a priori* AMO-2 velocity is given. Using the adjusted or *a priori* velocities and the full solution covariance, the station and site positions are propagated in time and tabulated annually. The corresponding position uncertainties are also propagated; changes in uncertainty reflect the distribution of data in time.

Earth orientation results are presented graphically in print and tabulated together with their correlations in the machine-readable version. Because VLBI cannot measure absolute earth orientation, a reference day was selected to fix the geographic pole and UT1 angle. The reference day is 17 October 1980, a date which is a BIH tabular day and for which a five-station network was used. The geographic pole is defined by the values of pole position from the nearest four

Circular D tabular points quadratically interpolated and applied as *a priori* parameters for each observation in the data set spanning 0 hr UT 17 October 1980. The rotation about the pole is defined similarly except that to each interpolated value the short-period terms from the standard MERIT model of UT1 tidal variation were added. Therefore the UT1 series given is slightly offset from the BIH.

For the single-baseline sessions only UT1 and one component of polar motion were estimated. Since single North American baselines are predominant because of POLARIS, the x-component is generally the single pole component estimated. The correlation between UT1 and the adjusted polar motion component is large, and both adjustments depend on the *a priori* value of the unadjusted component.

The tabular values are the unmodified results from the GLB401 solution. In particular, no smoothing has been applied, and no corrections have been made to the UT1 values to account for known tidal variations. For comparison with BIH Circular D values or other smoothed series, the tidal terms should be removed from the UT1 values.

The nutation offsets from the IAU 1980 nutation series, estimated in solution GLB401 for each session, are tabulated in the machine-readable version and plotted in the printed report. These offsets are with respect to the celestial pole of the reference day 17 October 1980, which is defined by the standard model.

B. The GLB405 solution

The purpose of the GLB405 solution was to produce tables of baseline evolution from the ensemble of VLBI data in a manner which made no *a priori* assumptions about tectonic plate motion. The station coordinates were therefore treated as arc parameters, i.e., they were allowed to vary from session to session, subject only to the constraint of being estimated with a global set of source coordinate values and an *a priori* EOP series. The GLB405 solution included the same data as the GLB401 solution. There were 94682 arc parameters. The overall weighted rms fit of the solution was 49.8 ps, and the reduced chi-square was 0.704. The coordinates of the observed extragalactic radio sources except for the right ascension of 3C273B, which was fixed to define the right ascension origin, constituted the 115 global parameters. The arc parameters included the positions of the stations for each session (except for the reference station for that session), the parametrizations for the station clocks and tropospheres, daily earth orientation parameters (constrained by input EOP covariances), and daily offsets in obliquity and longitude.

The evolution of each baseline is presented in three components: length, transverse, and vertical.

The baseline length is the chord distance between the reference points at the two ends. The reference point for a fixed station is within the antenna structure. For an antenna with intersecting axes the VLBI reference point is located at the intersection of axes. For an offset axis antenna the VLBI reference point is located at the point of intersection of the fixed axis with the plane perpendicular to the fixed axis containing the moving axis. The reference point at a mobile site (and for MV-1) is a ground survey monument near the mobile antenna.

The transverse direction for a given baseline is defined by the cross product of the *a priori* baseline vector from station 1 to station 2 with the *a priori* geocentric vector to station 2. The transverse component is the adjustment from the *a priori* baseline vector in the direction perpendicular to the baseline vector and directed toward the horizon at either site, and is defined such that a clockwise rotation seen from above is positive in sign.

The vertical direction is perpendicular to the length and transverse direction and is radially inward at the center of the baseline. For short baselines the baseline vertical direction is close to the topocentric vertical direction at either site. The vertical component is the adjustment from the *a priori* baseline vector in the baseline vertical direction. A positive change in the vertical component indicates an upward displacement of station 1 with respect to station 2. This component is the most poorly determined from VLBI data.

The transverse component is strongly dependent on a precise, consistent orientation of the terrestrial reference frame as defined in an EOP series. For the GLB405 solution the EOP series derived from fixed station VLBI data in solution GLB208 and submitted to the BIH (BIH Annual Report for 1987) was applied. It should be noted that the GLB208 solution applied the AMO-2 plate velocities *a priori* to all stations. Therefore, in the reference frame defined by the GLB208 EOP series all plates rotate and all baselines located on one plate rotate with the angular velocity of that plate. This plate rotation should be taken into account when interpreting the transverse velocity. For example, the baseline evolution plots for WESTFORD to GILCREEK, HRAS 085, and RICHMOND clearly show transverse rates which are as large as 30 times the formal error. These rates simply reflect the fact that the sites shared the motion of the North American plate in the *a priori* model of the solution which produced the EOP series. Had the EOP series been generated in solution with no *a priori* plate motion these baselines would have shown little or no transverse motion. The best EOP values in this series begin after 1983 when four-station IRIS measurements every five days became routine. Between mid-1981 and the end of 1983 single-baseline POLARIS data were available which gave good determinations of UT1 and the x-component of polar motion. Prior to mid-1981, BIH Circular D values derived largely from optical data were used. Consequently the consistency of transverse values may be weak before 1984 (depending on the orientation of the baseline) and is very poor before 1981. The uncertainties and correlations of the EOP values from GLB208 and the larger nominal uncertainties for the BIH values were propagated by SOLVE into the errors of the baseline components. The largest effect is on the transverse error. The vertical error is weakly affected and the length is independent of orientation.

For the purposes of geodetic interpretation, the HAYSTACK and WESTFORD antennas, which are only 1.24 km apart, can be considered to be identical. In the tables for HAYSTACK the results from the WESTFORD antenna have been mapped to HAYSTACK. The mapping used the geodetic tie between the antennas given in CDP: Catalog of Site Information (NASA TM-86218) which was derived from an NGS ground survey.

This report gives the weighted mean baseline length values, the weighted rms scatter about the mean length values, and, where a useful value could be computed, the rate of change of baseline length. In general the rate of change is not presented if there were fewer than five observing sessions or if the

sessions did not span at least two years. The baseline length at Jan. 1, 1985 is also tabulated for those baselines with measurable changes. The least-squares mean and rate estimates were based on the formal standard errors of the individual baseline length values. The listed error for each mean and rate value was computed by scaling the formal error from the least-squares estimate by the reduced chi-square of the fit. The weighted rms fit of the data about the best-fit line is also given where relevant. Similar information is given for the transverse and vertical components, except that the mean and reference epoch values, being from an arbitrary origin, are omitted.

The baseline results are presented in print in several forms: summaries of baseline rates and consistency, plots of the three baseline components as functions of time, and tables of values for baselines with insufficient measurements for useful plotting. The machine-readable report contains all the baseline data arranged alphabetically.

The machine-readable report also contains the geocentric, Cartesian coordinates of each fixed station and mobile site arranged alphabetically and tabulated chronologically. It should be noted that the position for a given epoch is in the coordinate system defined by the (arbitrary) reference station for that observing session and that different sessions having unrelated observing networks will have different reference stations. Correlations between station coordinates are available separately from the CDP-DIS.

C. Formal errors

The formal errors for all estimated parameters are computed from the covariance matrix of the relevant solution. The weight applied to each observation includes three terms: 1) SNR measurement error, 2) ionosphere calibration error from the SNR of X- and S-band observations, and 3) normalizing white noise root-sum-square added for each baseline. The last term is computed for each baseline for each session such that the reduced chi-square of the observations for each baseline is reduced to unity in a standard baseline solution in which only the data from that session are included and a good *a priori* source catalog is used. However, these noise values were computed on the basis of older analysis methods, in particular without the use of constrained troposphere rate parameters to model short-term variations. The inclusion of such parameters in the solution significantly improves the fit on individual solutions, but the improvement is not uniform from baseline to baseline or from session to session. Hence the previously saved normalizing noise terms are not completely correct for the current analysis, as reflected in the low reduced chi-square values of 0.7. There is no reason to expect, however, that the use of the saved noise terms leads to any systematic biases. The true parameter uncertainties will be larger because of unmodeled systematic effects.

V. REFERENCES

- Clark, T.A., B.E. Corey, J.L. Davis, G. Elgered, T.A. Herring, H.F. Hinteregger, C.A. Knight, J.I. Levine, G. Lundqvist, C. Ma, E.F. Nesman, R.B. Phillips, A.E.E. Rogers, B.O. Rönnäng, J.W. Ryan, B.R. Schupler, D.B. Shaffer, I.I. Shapiro, N.R. Vandenberg, J.C. Webber, and A.R. Whitney (1985). *IEEE Trans. Geoscience and Remote Sensing* GE-23, 438.
- Davis, J.L., T.A. Herring, I.I. Shapiro, A.E.E. Rogers, and G. Elgered (1985). *Radio Science* 20, 1593.
- Melbourne, W., R. Anderle, M. Feissel, R. King, D. McCarthy, D. Smith, B. Tapley, R. Vicente (1983). U.S. Naval Observatory Circular No. 167, Washington, D.C.
- Minster, J.B. and T.H. Jordan (1978). *J. Geophys. Res.* 83, 5331.
- Rogers, A.E.E., R.J. Cappallo, H.F. Hinteregger, J.I. Levine, E.F. Nesman, J.C. Webber, A.R. Whitney, T.A. Clark, C. Ma, J.W. Ryan, B.E. Corey, C.C. Counselman, T.A. Herring, I.I. Shapiro, C.A. Knight, D.B. Shaffer, N.R. Vandenberg, R. Lacasse, R. Mauzy, B. Rayhrer, B.R. Schupler, and J.C. Pigg (1983). *Science* 219, 51.
- Treuhaft, R.N. and G.E. Lanyi (1987). *Radio Science* 22, 251.

1.0 STATIONS and SITES

Table 1.1 describes the radio telescopes located at fixed stations. Each antenna has a unique name of up to eight characters in capitals which is used throughout this report. The entries give the antenna diameter, location and operating institution. Table 1.2 has the latitude and longitude for each mobile site, as well as the associated monument number and nearest major community. Again, as for the fixed stations, each mobile site has a name of up to eight characters in capitals.

TABLE 1.1
VLBI OBSERVING STATIONS

ALGOPARK, 46-m-diameter antenna at the Algonquin Radio Observatory near Lake Traverse, Ontario, Canada.

CHLBOLTN, 26-m-diameter antenna located in Chilbolton, England and operated by the Appleton Laboratories. (No longer in use for VLBI.)

DSS15, 34-m-diameter antenna operated by the Deep Space Network in the Goldstone Tracking Complex near Barstow, California.

EFLSBERG, 100-m-diameter antenna of the Max Planck Institute for Radio Astronomy located near Effelsberg, Germany.

GILCREEK, 26-m-diameter antenna operated by the CDP and located at the NOAA/NESDIS facility at Gilmore Creek, Alaska, near Fairbanks.

GOLDVENU, 26-m-diameter antenna operated by the Deep Space Network in the Goldstone Tracking Complex near Barstow, California.

HARTRAO, 26-m-diameter antenna at the Hartebeesthoek Radio Astronomy Observatory near Johannesburg, South Africa.

HATCREEK, 26-m-diameter antenna at the Hat Creek Radio Observatory, Hat Creek, California.

HAYSTACK, 37-m-diameter antenna at the Haystack Observatory, Westford, Massachusetts.

HRAS 085, 26-m-diameter antenna at the George R. Agassiz Station operated by the Harvard College Observatory and located near Fort Davis, Texas.

KASHIMA, 26-m-diameter antenna at the Kashima Space Research Center, Kashima, Japan.

KAUAI, 9-m-diameter antenna of NASA's Spaceflight Tracking and Data Network located near Kokee Park on Kauai in the state of Hawaii.

KWAJAL26, 26-m-diameter TRADEX antenna operated for the U.S. Air Force by Lincoln Laboratory in the Marshall Islands.

MARPOINT, 26-m-diameter antenna of the U.S. Naval Research Laboratory located near Maryland Point, Maryland.

MEDICINA, 32-m-diameter antenna operated by the University of Bologna, near Bologna, Italy.

MOJAVE12, 12-m-diameter antenna located at the NASA Goldstone complex near Barstow, California and operated by the NGS.

NRAO 140, 43-m-diameter antenna at the National Radio Astronomy Observatory, Green Bank, West Virginia.

ONSALA60, 20-m-diameter antenna at the Onsala Space Observatory, Onsala, Sweden.

OVRO 130, 40-m-diameter antenna at the Owens Valley Radio Observatory, Big Pine, California.

RICHMOND, 18-m-diameter antenna of the NGS near Miami, Florida.

ROBLED32, 32-m-diameter antenna located at the NASA Madrid complex in Spain and operated by the Deep Space Network.

SESHAN25, 25-m-diameter antenna of the Shanghai Astronomical Observatory near Shanghai, China.

SHANGHAI, 6-m-diameter antenna at the Shanghai Astronomical Observatory in Shanghai, China.

VNDNBERG, 9-m-diameter antenna operated by the CDP and located at the Vandenberg Air Force Base in California.

WESTFORD, 18-m-diameter antenna at the Haystack Observatory, Westford, Massachusetts.

WETTZELL, 20-m-diameter antenna located in Bavaria, Germany and operated by the German Institute for Applied Geodesy (IFAG).

TABLE 1.2
MOBILE VLBI SITES

Site Name	Monument	Location	Lat.	Long.
BLKBUTTE	7269	Black Butte, CA	33°40'	244°17'
DEADMANL	7267	Deadman Lake, CA	34°15'	243°43'
ELY	7286	Ely, NV	39°18'	245°09'
FLAGSTAF	7261	Flagstaff, AZ	35°13'	248°22'
FORT ORD	7266	Sand City, CA	36°40'	238°14'
JPL MV1	7263	Pasadena, CA	34°12'	241°50'
KODIAK	7278	Kodiak, AK	57°44'	207°30'
MAMMOTHL	7259	Mammoth Lakes, CA	37°38'	241°04'
MOJ 7287	7287	Barstow, CA	35°20'	243°07'
MON PEAK	7274	Monument Peak, CA	32°53'	243°35'
NOME	7279	Nome, AK	64°34'	194°38'
OCOTILLO	7270	Ocotillo, CA	32°47'	244°12'
OVR 7853	7853	Big Pine, CA	38°14'	241°42'
PBLOSSOM	7254	Pearblossom, CA	34°31'	242°05'
PENTICTN	7283	Penticton, B. C.	49°19'	240°23'
PINFLATS	7256	Pinyon Flats, CA	33°37'	243°33'
PLATTVIL	7258	Platteville, CO	40°11'	255°16'
PRESIDIO	7283	San Francisco, CA	37°48'	237°33'
PT REYES	7251	Point Reyes, CA	38°06'	237°04'
PVERDES	7268	Palos Verdes, CA	33°45'	241°36'
QUINCY	7221	Quincy, CA	39°58'	239°04'
SANPAULA	7255	Santa Paula, CA	34°23'	241°00'
SNDPOINT	7280	Sand Point, AK	55°21'	199°31'
SOURDOGH	7281	Sourdough, AK	63°40'	214°31'
VNDNBERG	7111	Vandenberg AFB, CA	34°34'	239°30'
VERNAL	7290	Vernal, UT	40°20'	250°26'
WHTHORSE	7284	Whitehorse, Yuk. T.	60°43'	224°55'
YAKATAGA	7277	Cape Yakataga, AK	60°05'	217°31'
YELLOWKN	7285	Yellowknife, NWT	62°29'	245°32'
YUMA	7894	Yuma, AZ	32°54'	245°40'

2.0 SUMMARY of EXPERIMENTS by DATABASE and SITE

Table 2.1 is a summary of the observing sessions discussed in this report. Each line corresponds to one observing session and contains the database name of the session and an 'X' to indicate which stations and/or sites participated. The final character in each database name does not necessarily indicate the type of experiment. POLARIS and IRIS experiments are identified in the file of earth orientation results available in section 9 of the machine-readable version.

TABLE 2.1
SUMMARY OF EXPERIMENTS

STATIONS

ABC	D	E	F	G	H	H	J	K	K	M	M	M	N	N	O	O	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 2.1 (continued)

EXPERIMENT NAME	KENL	G	FDKU	KK5	2HNN	81A	4L65	30TT	IES	N3L2	ANG	RRLSGK	D2A5	ITH	GDLEAN
\$81JAN22XA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81FEB12X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81FEB27X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81MAR16X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81MAY13X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81JUN16X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81JUN24XA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81JUL01X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81JUL08X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81JUL15X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81JUL22X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81JUL29X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81AUG05X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81AUG26X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81SEP02XA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81SEP09X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81SEP16X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81SEP23X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81SEP30X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81OCT15X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81OCT21XA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81OCT28X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81NOV04XA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81NOV10X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81NOV18X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$81NOV19X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

EXPERIMENT	NAME
ABCD	EEFGHHJJKKKKMMNN
EEFG	HHJJKKKKMMNN
HHJJ	KKKKMMNN
KKKK	MMNN
MMNN	OOO
OOO	PPPP
PPPP	QQRR
QQRR	SSSS
SSSS	VVWW
VVWW	YYYY
YYYY	
LLHE	SFLLOIAA
SFLLO	IAAARPA
IAAAR	PAASUD
PAASU	DAMRDI
DAMRD	JJNMA
JJNMA	OSRR
OSRR	LNNAE
LNNAE	EICB
EICB	NSAD
NSAD	URDS
URDS	TTHKL
TTHKL	M
OBBD	LSGTCD
LSGTCD	TCS
TCS	HAJJ
HAJJ	MP
MP	IA
IA	EO
EO	TA
TA	IL
IL	7
7	SIL
SIL	TI
TI	ED
ED	CE
CE	AG
AG	OD
OD	AB
AB	FZ
FZ	OT
OT	TO
PUOM	5B
5B	S
S	RVR
RVR	RT
RT	M
M	II
II	AA
AA	OO
OO	CC
CC	7
7	VP
ATLA	E
E	TOE
TOE	EA
EA	OV
OV	M
RTTN	R
R	ARE
ARE	NO
NO	EC
EC	8
8	1
KENL	G
G	FD
FD	KU
KU	KK
KK	5
6	LT
LT	A
A	8
8	2
2	K
000	30
30	MNS
MNS	LOS
LOS	D
D	2
2	A
A	5
5	T
T	H
H	GD
GD	LE
LE	AN

2-4

A B C D D E E F F G G H H H J K K K K M M M M N N O O P P P P P Q Q R R S S S S V V W W Y Y Y
 L L L H E S F L L O I O A A R P A A O W A E O O O R C N V V B E I L R T V U I O A E H N O E N E E H A E U
 S L Y A R L L R T Y A L S U D A M R D J J N M A O S R R L N N A E E I C B N S A D U R D S T T K L M
 D I S G T C D T C S H A I J M P I A E O T A O O T F T S R R N H L P H N P R N N T T H A L A
 M B S R V R R T M I I A A O O C 7 V P I L 7 S I L T I E D C M E A A G O D A B F Z O T O
 P U O M 5 B S T O E E A E A O V M K L T I I 2 E E 1 L A 8 1 S C A V D Y E Y O D U N H I O L E O E R A W
 A T L A E R A R T T N R A R E N O E C 8 1 A 2 H N N 8 1 A 4 L 6 5 3 O T T I E S N 3 L 2 A N G R R L S G K
 K E N L G F D K U K K 5 6 L T A 8 2 K 0 0 0 3 0 M N S L O S D 2 A 5 I T H G D L E A N

2-5

TABLE 2.1 (continued)

EXPERIMENT	NAME	ABCDDEEFFGGHHHHJJKKKKMMMMNNNOOO PPPPPQRRSSSSSSVVWWWWYY	Y
		LLHESFLLOIOAAARPAAOWAAEOOORCNVVBELRLRTVUIOAEHNOENEHAEU	
		GKLASLYARLLRTRYALSUDAMRDJJNMAOSRRRLNNAE EICBNSADURDSTTKLM	
		OBBD1S GTCDDTCSS HAIJMPI A EOTA OOTFTSRRNHLPHNPRNNTTHALA	
		PUOM5B S RVRRT MIIAAOOC7VP IL7 SILTIEDCMEAAGODABFZOTO	
		ATLA E TOEEAEA0VM KLTII2EE 1LA81SCAVDYES YODUNHHIOLEOERAW	
		RTTN R ARENOEC81A 2HNN81A 4L6530TTIIES N3L2ANG RRLSGK	
		KENL G FDKU KK5 6LTA82K 00030MNSLOS D2A5ITH GDLEAN	
\$82NOV15X		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$82NOV22XA		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$82NOV29XA		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$82DEC06XA		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$82DEC15X		- - - - - X - - - - - X - X - X - X - - - - - X - - - - -	-
\$82DEC16X		- - - - - X - - - - - X - X - X - X - - - - - X - - - - -	-
\$82DEC20XA		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$82DEC27X		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$83JAN03X		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$83JAN10X		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$83JAN17X		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$83JAN24XA		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$83JAN31XA		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$83FEB07X		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$83FEB14XA		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$83FEB21X		- - - - - X - - - - - X - - - - - X X - - - - - X - - - - -	-
\$83FEB28X		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$83MAR07X		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$83MAR14X		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$83MAR21X		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$83MAR28X		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$83APR04X		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$83APR11X		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$83APR18X		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$83APR25X		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$83MAY02X		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-
\$83MAY05X		- - - - - X X - - - - - X - - - - - X - - - - - X - - - - -	-
\$83MAY09X		- - - - - X - - - - - X - - - - - X - - - - - X - - - - -	-

TABLE 2.1 (continued)

EXPERIMENT NAME	ABC	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
\$83MAY16X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83MAY23X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83MAY31X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83JUN06X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83JUN07X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83JUN07XP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83JUN09X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83JUN13X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83JUN20X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83JUN27XA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83JUN28XA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83JUN29X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83JUL05X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83JUL11X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83JUL25X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83AUG01X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83AUG08X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83AUG15X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83AUG22XJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83AUG22XP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83AUG23X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83AUG25XJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83AUG27X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83AUG29X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83AUG30X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83AUG31X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83SEP02X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$83SEP07X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 2.1 (continued)

EXPERIMENT NAME	ABCDDEEFFGGHHHJJKKKKMMMMNNNOOOOPPPPPQRRSSSSSSVVVWWYY	Y
\$83SEP12X	LLHESFLLOIOAAARPAALSOUDAMRDJJNMAOSRRLNNAE EICBNSADURDSTTKLM	-
\$83SEP17X	OBBD1S GTCDDTCSS HAIJMPI A EOTA OOTFTSRRNHLPHNPRNNTTHALA	-
\$83SEP22X	PUOM5B S RVRRT MIIAAOOC7VP IL7 SILTIEDCMFAAGODABFZOTO	-
\$83SEP23XA	ATLA E TOEEAEA0VM KLTII2EE 1LA81SCAVDYES N3L2ANG RRLSGK	-
\$83SEP27X	RTTN R ARENOEC81A 2HNN81A 4L6530TTIIES D2A5ITH GDLEAN	-
\$83OCT02X	KENL G FDKU KK5 6LTA82K 00030MNSLOS	-
\$83OCT07X	-	-
\$83OCT12X	-	-
\$83OCT17X	-	-
\$83OCT22X	-	-
\$83OCT27X	-	-
\$83OCT28X	-	-
\$83OCT29X	-	-
\$83OCT31X	-	-
\$83NOV01X	-	-
\$83NOV03X	-	-
\$83NOV05X	-	-
\$83NOV06X	-	-
\$83NOV08X	-	-
\$83NOV10X	-	-
\$83NOV11X	-	-
\$83NOV12X	-	-
\$83NOV16X	-	-
\$83NOV17X	-	-
\$83NOV21X	-	-
\$83NOV26X	-	-
\$83DEC01X	-	-
\$83DEC06X	-	-

A B C D D E E F F G G H H H J K K K K M M M M N N O O P P P P P P P Q Q R R S S S V V W W Y Y Y
 L L H E S F L L O I O A A A R P A A O W A A E O O O R C N V V B E I L R T V U I O A E H N O E E H A E U
 G K L A S L Y A R L L R T Y A L S U D A M R I J J N M A O S R R L N A E E I C B N S A D U R D S T T K L M
 O B B D I S G T C D T C S S H A I J M P I A E O T A O O T F T S R R N H L P H N P R N T T H A L A
 P U O M 5 B S R V R R T M I I A A O O C 7 V P I L 7 S I L T I E D C M E A A G O D A B F Z O T O
 A T L A E T O E E A E A O V M K L T I I 2 E E 1 L A 8 1 S C A V D Y E Y O D U N H I O L E O E R A W
 R T T N R A R E N O E C 8 1 A 2 H N N 8 1 A 4 L 6 5 3 O T T I I E S N 3 L 2 A N G R R L S G K
 K E N L G F D K U K K 5 6 L T A 8 2 K 0 0 0 3 0 M N S L O S D 2 A 5 I T H G D L E A N

2-9

[illegible]

2-10

TABLE 2.1 (continued)

[illegible]

[illegible][illegible]

TABLE 2.1 (continued)

[illegible]

TABLE 2.1 (continued)

[illegible]

TABLE 2.1 (continued)

[illegible]

TABLE 2.1 (continued)

ABCDDEEFFGGHHHJJKKKKMMNNNOOO PPPPPQRRSSSSVVWWXXYY
LLHESFLLOIAAARPAOWAAEOOORCNVVBELRLTVUIOA EHN OENEEHA EU
GKLASLYARLLRTYALSUDAMRDIJNMAOSRRRLNNAE EICBN S ADURDSTTKLM
OBB D1S GTC DTCSS HAIJMP I A EOTA OOTFTSRNRHLPHNPRNNTTHALA
PUOM5B S RVRRT MI IA AOOC7VP IL7 SILTIEDCM EAAGODABFZO TO
ATLA E T OEEAEA0VM KLTII2EE 1LA81SCAVDY EO DUNHIOL EOE RAW
RTTN R ARENOEC81A 2HNN81A 4L6530TTIIES N3L2ANG RRRLSGK
KENL G FDKU KK5 6LTA82K 00030MNSLOS D2A5ITH GDLEAN
EXPERIMENT NAME
\$85AUG31XI
\$85SEP04X
\$85SEP05XI
\$85SEP10XI
\$85SEP11X
\$85SEP15XI
\$85SEP20XI
\$85SEP25XI
\$85SEP30XI
\$85SEP30X
\$85OCT05XI
\$85OCT10XI
\$85OCT15XI
\$85OCT19X
\$85OCT20XI
\$85OCT23X
\$85OCT25XI
\$85OCT27X
\$85OCT29X
\$85OCT30XI
\$85OCT30X
\$85NOV02X
\$85NOV04XI
\$85NOV05X
\$85NOV09XI
\$85NOV14XI
\$85NOV19XI
\$85NOV20X

TABLE 2.1 (continued)

[illegible]

A B C D D E E F F G G H H J K K K K M M M M M N N O O O P P P P P P Q Q R R S S S V V W W Y Y Y
 L L H E S F L L O I O A A A R P A A O W A A E O O O R C N V B E I L R T V U I O A E H N O E N E H A E U
 G K L A S L Y A R L L R T Y A L S U D A M R D J J N M A O S R R L N A E E I C B N S A D U R D S T T K L M
 O B B D I S G T C D T C S S H A I J M P I A E O T A O O T F T S R R N H L P H N P R N T T H A L A
 P U O M S B S R V R R T M I I A A O O C 7 V P I L 7 S I L T I E D C M E A A G O D A B F Z O T O
 A T L A E T O E E A E A O V M K L T I I 2 E E 1 L A 8 1 S C A V D Y E Y O D U N H I O L E O E R A W
 R T T N R A R E N O E C 8 1 A 2 H N N 8 1 A 4 L 6 5 3 O T T I E S N 3 L 2 A N G R R L S G K
 K E N L G F D K U K K 5 6 L T A 8 2 K 0 0 0 3 0 M N S L O S D 2 A 5 I T H G D L E A N

2-18

TABLE 2.1 (continued)

[illegible]

ABCDEEFGHHJJKKKKMMMMNNNOOOPP PPPPPQRRSSSSVVWWYY
 LLHESFLIOAAARPAALSUAMRDJ JNMAOSRRLLNNAE EICBN
 GKLLASLYARLLRTYALSUAAMRDJ JNMAOSRRLLNNAE EICBN
 OBBDD1S GTCDDTCS HAIJMPI A EOTA OOTFTSRRNHLPHN
 PUOM5B S RVRRT MIIAAOOC7VP IL7 SILTIEDCMEAAGOD
 ATLA E TOEEAEA0VM KLTII2EE 1LA81SCAVDYES N3L2AN
 RRTTN R ARENOEC81A 2HNN81A 4L6530TTIIES N3L2AN
 KENL G FDKU KK5 6LTA82K 00030MNSLOS D2A5ITH GDLE

2-20

TABLE 2.1 (continued)

[illegible]

A B C D D E E F F G G H H H J K K K M M M M N N O O P P P P Q Q R R S S S S V V W W Y Y Y
 L L H E S F L L O I O A A A R P A A O W A A E O O O R C N V V B E I L R T V U I O A E H N O E N E E H A E U
 G K L A S L Y A R L L R T Y A L S U D A M R D J J N M A O S R R L N N A E E I C B N S A D U R D S T T K L M
 O O B B D 1 S G T C D T C S S H A I J M P I A E O T A O O T F T S R R N H L P H N P R N N T T H A L A
 P U O M 5 B S R V R R T M I I A A O O C 7 V P I L 7 S I L T I E D C M E A A G O D A B F Z O T O
 A T L A E T O E E A E A O V M K L T I I 2 E E 1 L A 8 1 S C A V D Y E Y O D U N H I O L E O E R A W
 R R T N R A R E N O E C 8 1 A 2 H N N 8 1 A 4 L 6 5 3 O T T I E S N 3 L 2 A N G R R L S G K
 K E N L G F D K U K K 5 6 L T A 8 2 K 0 0 0 3 0 M N S L O S D 2 A 5 I T H G D L E A N

2-22

TABLE 2.1 (continued)

ABCDDEEFFGGHHHJ	KKKKKMMMMNN	OOOOPPPPP	QRRSSSS	VVWWYY	Y
LLHESFLLOIAAAR	PAAOWAAEOO	ORCNVVBEL	ILRTVUIOAE	HNOENEHAEU	
GKLASLYARLLR	TYALSUDAMR	JJNMAOSRRL	NAE EICBNSA	DURDSTTKLM	
OBBD1S GTC	DTCS HAIJMPI	A EOTA OOT	FTSRRNHL	PHNPRNNTTH	ALA
PUOM5B S R	VRRRT MIIAA	OOC7VP IL7	SILTIEDC	MEAGODABF	ZOTO
ATLA E TOEE	AEA0VM KLT	II2EE 1LA	81SCAVD	YEOLEOERAW	
RTTN R ARE	NOEC81A 2H	NN81A 4L	653OTT	IES N3L2	ANG RRLSGK
KENL G FDKU	KK5 6LTA	82K 000	30MNSLOS	D2A5ITH	GDLEAN
\$87FEB23XH	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87FEB24X	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87FEB27XI	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87MAR04XI	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87MAR09XI	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87MAR14XI	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87MAR19XI	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87MAR22X	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87MAR24XI	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87MAR24X	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87MAR25XA	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87MAR25X	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87MAR26X	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87MAR28X	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87MAR29XI	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87AFR03XI	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87AFR08XI	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87AFR09X	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87AFR13XI	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87AFR14X	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87AFR18XI	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87AFR21X	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87AFR23XI	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87AFR28XI	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87AFR29XP	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87MAY01X	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87MAY02X	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
\$87MAY03XI	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -

TABLE 2.1 (continued)

EXPERIMENT NAME	KENL	G	FDKU	KK5	2HNN	81A	4L6530	TIIES	N3L2	ANG	RRLSGK	D2A5	ITH	GDLEAN
\$87MAY04X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87MAY06X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87MAY07X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87MAY08XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87MAY10X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87MAY13XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87MAY14X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87MAY17X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87MAY18XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87MAY21X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87MAY23XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87MAY24X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87MAY28XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87MAY29XP	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87JUN02XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87JUN06XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87JUN09X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87JUN12XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87JUN17XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87JUN22XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87JUN23X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87JUN24X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87JUN27XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87JUN28XP	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87JUL02XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87JUL07XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87JUL08X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87JUL12XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-

[illegible]

2-25

TABLE 2.1 (continued)

EXPERIMENT NAME	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
\$87SEP16X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87SEP20XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87SEP23X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87SEP25XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87SEP30XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87OCT05XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87OCT10XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87OCT15XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87OCT16X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87OCT18X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87OCT19X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87OCT20XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87OCT21XP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87OCT21X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87OCT22X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87OCT24X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87OCT25XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87OCT28X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87OCT30XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87OCT31X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87NOV01X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87NOV03X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87NOV04XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87NOV05X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87NOV09XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87NOV10X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$87NOV14XI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 2.1 (continued)

ABC	D	E	E	F	G	H	H	J	K	K	K	M	M	M	N	N	O	O	O	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

3.0 SOURCE COORDINATES

Table 3.1 gives the estimated positions of the observed extragalactic radio sources. Errors are given in units of seconds of time for right ascension and arcseconds for declination. The right ascension of 3C273B was fixed at the indicated value in order to establish the right ascension origin in the celestial reference frame.

TABLE 3.1
SOURCE COORDINATES FROM GLB401 SOLUTION

SOURCE	RIGHT ASCENSION				DECLINATION			
	HR	MIN	SEC	ERROR	DEG	MIN	SEC	ERROR
0106+013	1	8	38.771073	.000003	1	35	.31795	.00027
0212+735	2	17	30.813780	.000058	73	49	32.62119	.00024
4C67.05	2	28	50.051828	.000043	67	21	3.02856	.00026
0229+131	2	31	45.894088	.000005	13	22	54.71604	.00025
0234+285	2	37	52.405744	.000010	28	48	8.98930	.00024
0235+164	2	38	38.930115	.000009	16	36	59.27435	.00038
0300+470	3	3	35.242359	.000021	47	16	16.27464	.00024
3C84	3	19	48.160179	.000018	41	30	42.10122	.00025
NRAO150	3	59	29.747375	.000023	50	57	50.16043	.00022
0420-014	4	23	15.800695	.000004	-1	20	33.06586	.00025
3C120	4	33	11.095508	.000021	5	21	15.61694	.00072
0454-234	4	57	3.179161	.000023	-23	24	52.02014	.00038
0528+134	5	30	56.416761	.000005	13	31	55.14816	.00023
0552+398	5	55	30.805630	.000015	39	48	49.16316	.00022
0727-115	7	30	19.112422	.000008	-11	41	12.60165	.00030
0742+103	7	45	33.059377	.000104	10	11	12.69019	.00283
OJ287	8	54	48.874881	.000006	20	6	30.63929	.00026
4C39.25	9	27	3.013796	.000012	39	2	20.85046	.00026
OK290	9	56	49.875325	.000019	25	15	16.04780	.00063
1034-293	10	37	16.079803	.000031	-29	34	2.81252	.00052
1127-145	11	30	7.050361	.002854	-14	49	27.41541	.03330
1144+402	11	46	58.297794	.000013	39	58	34.30415	.00027
3C273B	12	29	6.699700	.000000	2	3	8.59916	.00028
1219+285	12	21	31.690461	.000019	28	13	58.50013	.00065
3C279	12	56	11.166495	.000008	-5	47	21.52414	.00036
1308+326	13	10	28.663773	.000010	32	20	43.78341	.00026
1354+195	13	57	4.436596	.000010	19	19	7.37321	.00027
OQ208	14	7	.394322	.000009	28	27	14.69060	.00025
1418+546	14	19	46.597185	.000028	54	23	14.78823	.00028
1502+106	15	4	24.979764	.000005	10	29	39.20089	.00026
1510-089	15	12	50.525623	.003627	-9	5	59.83611	.01105
1548+056	15	50	35.269225	.000003	5	27	10.45127	.00024
CTD93	16	9	13.320140	.000648	26	41	28.96404	.01889
1633+38	16	35	15.492896	.000016	38	8	4.50263	.00024
1637+574	16	38	13.456180	.000029	57	20	23.98097	.00023
1642+690	16	42	7.848318	.000045	68	56	39.75811	.00022
3C345	16	42	58.809876	.000015	39	48	36.99597	.00022
NRAO530	17	33	2.705777	.000008	-13	4	49.54477	.00028
1741-038	17	43	58.856137	.000004	-3	50	4.61287	.00027
1749+701	17	48	32.840214	.000207	70	5	50.76989	.00089
1749+096	17	51	32.818566	.000005	9	39	.73141	.00024

SOURCE	RIGHT ASCENSION				DECLINATION			
	HR	MIN	SEC	ERROR	DEG	MIN	SEC	ERROR
1803+784	18	0	45.683704	.000087	78	28	4.02047	.00022
3C390.3	18	42	8.989777	.000402	79	46	17.13013	.00099
1921-293	19	24	51.055901	.000014	-29	14	30.11664	.00038
1923+210	19	25	59.605361	.000027	21	6	26.16406	.00106
1928+738	19	27	48.494934	.000139	73	58	1.57172	.00083
3C418	20	38	37.034839	.000021	51	19	12.66495	.00026
2121+053	21	23	44.517397	.000005	5	35	22.09582	.00028
2128-123	21	31	35.261581	.000030	-12	7	4.79305	.00046
2134+00	21	36	38.586312	.000003	0	41	54.21619	.00029
2145+067	21	48	5.458677	.000004	6	57	38.60651	.00028
2155-152	21	58	6.281724	.000038	-15	1	9.32579	.00059
VR422201	22	2	43.291455	.000014	42	16	39.98174	.00027
2201+315	22	3	14.975864	.000026	31	45	38.27206	.00056
2216-038	22	18	52.037716	.000003	-3	35	36.87677	.00030
2234+282	22	36	22.470925	.000010	28	28	57.41496	.00028
3C454.3	22	53	57.747963	.000005	16	8	53.56250	.00028
2345-167	23	48	2.608441	.000016	-16	31	12.01983	.00035

4.0 SITE VELOCITIES from SOLUTION GLB401

Table 4.1 gives X, Y, and Z velocities for each site in the terrestrial reference frame defined by the position of WESTFORD, the AMO-2 plate motion model, and the azimuth from WESTFORD to GILCREEK. In this frame WESTFORD is constrained to move with the AMO-2 velocity while the azimuth of the WESTFORD TO GILCREEK baseline changes following the AMO-2 motions of the endpoints. See text for further details. Velocities and their respective errors are both stated in mm/yr. A dash in the column for velocity error indicates that the station's velocity was not adjusted and the velocity given is the a priori AMO-2 velocity. Each site and station name in the table is followed by its associated monument number and a three-letter code indicating which tectonic plate it was assumed to occupy for the GLB401 solution. The selection of tectonic plate was arbitrary in some cases but does not affect the adjusted velocity. The codes are as follows:

NOA -- North American
EUR -- Eurasian
PCF -- Pacific
AFR -- African

TABLE 4.1
SITE VELOCITIES (mm/yr)

SITE	MON	PLATE	X-VEL	ERR	Y-VEL	ERR	Z-VEL	ERR
ALGOPARK	7282	NOA	-12.8	3.9	-2.7	3.1	0.0	3.1
BLKBUTTE	7269	NOA	-21.5	1.5	3.7	1.2	-9.1	1.6
CHLBOLTN	7215	EUR	-13.3	-	16.4	-	11.1	-
DEADMANL	7267	NOA	-15.1	3.4	2.6	2.7	-6.5	3.9
DSS15	7231	NOA	-15.8	-	-1.5	-	-12.0	-
EFLSBERG	7203	EUR	-11.7	2.4	16.0	4.0	8.1	2.0
ELY	7286	NOA	-20.9	1.8	-1.5	1.8	-12.4	2.0
FLAGSTAF	7261	NOA	-13.5	1.8	2.6	1.7	-3.7	2.3
FORT ORD	7266	PCF	-26.4	0.9	33.0	1.0	19.1	1.1
GILCREEK	7225	NOA	-23.4	0.6	-2.6	0.7	-9.9	0.1
GOLDVENU	1513	NOA	-16.1	0.5	4.8	0.5	-4.2	0.6
HARTRAO	7232	AFR	-17.0	7.5	51.2	14.1	18.0	10.2
HATCREEK	7218	NOA	-19.7	0.5	5.7	0.6	-6.4	0.6
HAYSTACK	7205	NOA	-17.8	0.3	-2.8	0.3	3.2	0.3
HRAS 085	7216	NOA	-11.9	0.4	9.3	1.0	-10.2	0.8
JPL MV1	7263	PCF	-30.6	0.7	21.5	0.7	6.7	0.9
KASHIMA	1856	NOA	-0.7	1.6	8.7	1.4	-8.5	1.7
KAUAI	1311	PCF	-9.7	0.6	61.9	1.1	30.7	1.2
KODIAK	7278	NOA	-16.6	2.9	6.1	4.0	-7.6	1.6
KWAJAL26	4968	PCF	21.0	0.9	65.9	3.1	37.9	4.3
MAMMOTHL	7259	NOA	-23.1	1.7	9.8	1.7	-3.5	1.9
MARPOINT	7217	NOA	-6.8	10.0	-2.8	9.7	-1.5	11.8
MEDICINA	7230	EUR	-15.5	-	17.7	-	11.9	-
MOJ 7288	7288	NOA	-15.8	-	-1.5	-	-12.1	-
MOJAVE12	7222	NOA	-15.9	0.4	5.2	0.5	-3.7	0.5
MON PEAK	7274	PCF	-33.1	0.6	26.3	0.6	13.8	0.7
NOME	7279	NOA	-27.3	5.4	-2.0	3.8	-12.9	2.8
NRAO 140	7204	NOA	-21.9	1.1	-0.9	0.9	3.8	1.1
OCOTILLO	7270	NOA	-29.1	16.2	-18.7	13.4	-45.8	20.0
ONSALA60	7213	EUR	-12.6	1.4	9.1	0.7	11.0	1.9
OVR 7853	7853	NOA	-16.4	-	-1.6	-	-12.2	-
OVRO 130	7207	NOA	-18.8	0.3	6.6	0.5	-4.1	0.5
PBLOSSOM	7254	PCF	-25.6	0.8	16.4	0.8	3.8	1.0
PENTICTN	7283	NOA	-33.4	6.7	7.2	7.1	-8.9	5.6
PINFLATS	7256	NOA	-25.6	0.9	16.1	0.8	4.4	1.0
PLATTVIL	7258	NOA	-16.3	1.0	0.9	1.0	-4.0	1.1
PRESIDIO	7252	PCF	-24.3	1.2	22.5	1.3	7.8	1.5
PT REYES	7251	PCF	-22.4	1.2	30.2	1.1	17.0	1.3
PVERDES	7268	PCF	-30.0	1.6	25.7	1.4	12.6	1.8
QUINCY	7221	NOA	-20.4	1.1	7.0	1.0	-5.4	1.0
RICHMOND	7219	NOA	-14.5	0.5	-2.1	0.2	0.8	0.5
ROBLED32	1561	EUR	-10.2	-	18.8	-	13.6	-
SANPAULA	7255	PCF	-34.6	1.4	26.1	1.4	9.0	1.8

SITE	MON	PLATE	X-VEL	ERR	Y-VEL	ERR	Z-VEL	ERR
SESHAN25	7227	EUR	-25.1	-	-7.9	-	-10.4	-
SHANGHAI	7226	EUR	-25.0	-	-8.0	-	-10.4	-
SNDPOINT	7280	NOA	-29.1	5.2	-3.2	9.8	-19.8	3.5
SOURDOGH	7281	NOA	-25.5	3.1	-4.1	2.5	-12.1	0.8
VERNAL	7290	NOA	-1.9	4.3	10.2	3.9	10.5	4.7
VNDNBERG	7223	PCF	-31.5	0.5	33.5	0.6	18.7	0.6
WESTFORD	7209	NOA	-18.2	-	-2.8	-	3.4	-
WETTZELL	7224	EUR	-15.5	1.5	13.0	0.9	10.6	1.2
WHTHORSE	7284	NOA	-7.6	13.8	-2.5	6.9	-4.1	5.6
YAKATAGA	7277	NOA	-9.4	4.7	27.7	3.0	5.4	1.4
YELLOWKN	7285	NOA	-18.2	4.4	-3.6	5.7	-5.7	3.0
YUMA	7894	NOA	-14.1	0.9	1.5	0.9	-6.9	1.2

5.0 SITE POSITIONS by YEAR

Tables 5.1 through 5.10 give the X, Y, and Z coordinates for each site on January 1 from 1979 through 1988 in the AMO-2 terrestrial reference frame. See the text or section 4.0 for the definition of the AMO-2 reference frame. Coordinates and their respective formal errors are all in mm. The formal errors are one sigma standard statistical errors scaled according to the reduced chi-square of the GLB401 solution and propagated to the epoch of the table. The dash for the site position errors of WESTFORD indicates that this is the reference station which defines the coordinate system origin.

TABLE 5.1
SITE POSITIONS FOR 1979

SITE	MON	X (mm)	ERR (mm)	Y (mm)	ERR (mm)	Z (mm)	ERR (mm)
ALGOPARK	7282	918036730.5	28.8	-4346133018.5	24.0	4561971553.2	26.1
BLKBUTTE	7269	-2306305044.9	14.7	-4787915258.6	16.7	3515737175.4	18.9
CHLBOLTN	7215	4008312106.4	9.9	-100651945.3	5.8	4943794672.9	15.0
DEADMANL	7267	-2336817648.0	97.6	-4732587510.3	172.9	3570330505.7	134.7
DSS15	7231	-2353536870.2	9.8	-4641650279.2	18.7	3676670774.4	17.2
EFLSBERG	7203	4033949547.9	10.7	486989323.8	11.3	4900430672.7	16.4
ELY	7286	-2077234364.5	16.6	-4486713479.1	21.6	4018754491.8	22.6
FLAGSTAF	7261	-1923990816.0	16.2	-4850855321.2	22.1	3658589977.6	24.2
FORT ORD	7266	-2697024755.4	10.0	-4354394353.9	15.7	3788078085.2	16.2
GILCREEK	7225	-2281545003.7	9.7	-1453645728.7	9.9	5756993831.3	14.7
GOLDVENU	1513	-2351127239.3	5.7	-4655477892.3	9.8	3660957605.0	11.0
HARTRAO	7232	5085444386.1	75.6	2668261688.0	125.9	-2768697394.2	96.5
HATCREEK	7218	-2523967973.0	5.1	-4123507162.2	8.9	4147753299.5	10.6
HAYSTACK	7205	1492406724.2	1.9	-4457267327.9	3.1	4296882097.5	3.1
HRAS 085	7216	-1324209154.9	2.7	-5332024004.2	9.6	3232119084.2	9.3
JPL MV1	7263	-2493303979.2	7.8	-4655198567.1	13.5	3565519941.9	13.3
KASHIMA	1856	-3997890346.9	25.4	3276580424.4	16.0	3724118885.6	30.1
KAUAI	1311	-5543844192.3	11.8	-2054565482.0	18.5	2387814281.4	22.8
KODIAK	7278	-3026938098.4	29.9	-1575912554.6	39.1	5370363150.8	29.0
KWAJAL26	4968	-6143534959.9	24.6	1363995811.1	32.2	1034707780.3	44.8
MAMMOTHL	7259	-2448244823.1	19.3	-4426739212.6	26.4	3875436614.6	26.1
MARPOINT	7217	1106631216.5	43.6	-4882908014.6	43.1	3938087392.9	53.0
MEDICINA	7230	4461372107.8	14.3	919595546.7	8.1	4449559012.9	21.6
MOJ 7288	7288	-2356492222.0	6.0	-4646608441.8	13.9	3668427389.4	13.4
MOJAVE12	7222	-2356169103.8	3.5	-4646756708.3	8.2	3668471299.4	9.7
MON PEAK	7274	-2386287381.0	5.9	-4802347590.6	10.8	3444884520.4	11.6
NOME	7279	-2658148189.7	53.1	-693822570.5	35.3	5737237211.9	30.7
NRAO 140	7204	882881846.8	3.7	-4924483119.0	6.7	3944131084.1	7.1
OCOTILLO	7270	-2335599169.3	118.1	-4832244872.1	106.4	3434393479.3	152.0
ONSALA60	7213	3370608154.5	7.9	711916381.6	6.1	5349830646.1	13.9
OVR 7853	7853	-2410419325.8	4.8	-4477801164.3	11.8	3838691086.6	12.4
OVRO 130	7207	-2409598824.5	3.1	-4478350372.1	8.0	3838603907.1	9.5
PBLOSSOM	7254	-2464068952.2	10.3	-4649426541.9	16.4	3593906320.4	15.7
PENTICTN	7283	-2058838304.0	52.8	-3621287158.5	60.3	4814421387.8	57.7
PINFLATS	7256	-2369633989.4	9.2	-4761325839.7	14.6	3511116767.2	14.4
PLATTVIL	7258	-1240706230.5	9.3	-4720455150.6	12.0	4094482291.0	13.7
PRESIDIO	7252	-2707702885.6	12.1	-4257610563.0	16.8	3888374769.4	18.2
PT REYES	7251	-2732331124.6	13.3	-4217635916.0	17.5	3914491554.3	18.4
PVERDES	7268	-2525450806.9	19.2	-4670036700.9	24.7	3522887332.1	24.7
QUINCY	7221	-2517228924.8	11.7	-4198596038.7	15.0	4076531976.4	16.2
RICHMOND	7219	961259830.2	4.3	-5674090897.6	6.4	2740534238.3	5.6
ROBLED32	1561	4849247220.3	69.4	-360279406.4	19.4	4114884411.7	59.7
SANPAULA	7255	-2554474569.4	41.4	-4608628287.7	71.3	3582138803.7	55.9

SITE	MON	X (mm)	ERR (mm)	Y (mm)	ERR (mm)	Z (mm)	ERR (mm)
SESHAN25	7227	-2831684103.0	80.4	4675732786.2	77.7	3275327747.5	90.9
SHANGHAI	7226	-2847695450.8	155.6	4659871689.5	136.7	3283958907.9	124.9
SNDPOINT	7280	-3425459676.7	47.2	-1214669791.2	91.4	5223858942.3	45.8
SOURDOGH	7281	-2419991317.6	29.3	-1664229426.6	24.9	5643538923.0	20.0
VERNAL	7290	-1631471501.1	40.2	-4589129755.9	40.8	4106760403.3	49.1
VNDNBERG	7223	-2678092720.0	4.8	-4525451892.7	9.4	3597410641.3	10.9
WESTFORD	7209	1492208586.7	-	-4458131323.9	-	4296015871.0	-
WETTZELL	7224	4075542024.8	10.9	931734065.6	7.4	4801629238.6	15.2
WHTHORSE	7284	-2215211594.0	126.9	-2209262293.4	63.8	5540293106.8	56.7
YAKATAGA	7277	-2529742203.6	46.9	-1942092268.0	31.5	5505028474.0	24.8
YELLOWKN	7285	-1224122435.1	33.2	-2689531330.1	43.8	5633555850.1	36.1
YUMA	7894	-2196776075.2	9.3	-4887337847.7	12.6	3448425955.0	14.6

TABLE 5.2
SITE POSITIONS FOR 1980

SITE	MON	X (mm)	ERR (mm)	Y (mm)	ERR (mm)	Z (mm)	ERR (mm)
ALGOPARK	7282	918036717.7	24.2	-4346133021.2	20.6	4561971553.3	22.6
BLKBUTTE	7269	-2306305066.4	13.1	-4787915254.9	15.9	3515737166.3	17.5
CHLBOLTN	7215	4008312093.1	9.9	-100651929.0	5.8	4943794684.1	15.0
DEADMANL	7267	-2336817663.1	96.3	-4732587507.7	172.3	3570330499.2	133.5
DSS15	7231	-2353536886.0	9.8	-4641650280.7	18.7	3676670762.4	17.2
EFLSBERG	7203	4033949536.2	9.6	486989339.8	7.9	4900430680.7	15.8
ELY	7286	-2077234385.4	14.6	-4486713480.6	20.3	4018754479.3	20.9
FLAGSTAF	7261	-1923990829.5	14.3	-4850855318.6	20.9	3658589973.9	22.0
FORT ORD	7266	-2697024781.8	9.3	-4354394321.0	15.3	3788078104.4	15.7
GILCREEK	7225	-2281545027.1	9.1	-1453645731.3	9.7	5756993821.4	14.7
GOLDVENU	1513	-2351127255.3	5.3	-4655477887.5	9.7	3660957600.8	10.9
HARTRAO	7232	5085444369.1	68.1	2668261739.1	109.7	-2768697376.1	84.9
HATCREEK	7218	-2523967992.6	4.5	-4123507156.5	8.7	4147753293.1	10.5
HAYSTACK	7205	1492406706.4	1.7	-4457267330.7	2.9	4296882100.8	2.9
HRAS 085	7216	-1324209166.8	2.5	-5332023994.9	8.8	3232119074.0	8.8
JPL MV1	7263	-2493304009.8	7.2	-4655198545.6	13.2	3565519948.6	13.0
KASHIMA	1856	-3997890347.6	24.1	3276580433.2	15.0	3724118877.1	29.7
KAUAI	1311	-5543844202.0	11.4	-2054565420.1	17.9	2387814312.1	22.3
KODIAK	7278	-3026938115.0	26.8	-1575912548.5	34.7	5370363143.2	28.0
KWAJAL26	4968	-6143534938.8	24.3	1363995876.9	29.3	1034707818.2	41.1
MAMMOTHL	7259	-2448244846.1	17.9	-4426739202.8	25.6	3875436611.1	24.8
MARPOINT	7217	1106631209.7	31.7	-4882908017.4	32.6	3938087391.3	39.6
MEDICINA	7230	4461372092.3	14.3	919595564.3	8.1	4449559024.7	21.6
MOJ 7288	7288	-2356492237.7	6.0	-4646608443.3	13.9	3668427377.3	13.4
MOJAVE12	7222	-2356169119.6	3.2	-4646756703.1	8.1	3668471295.7	9.6
MON PEAK	7274	-2386287414.0	5.3	-4802347564.3	10.7	3444884534.2	11.4
NOME	7279	-2658148217.0	46.9	-693822572.4	31.1	5737237199.0	28.9
NRAO 140	7204	882881824.9	2.7	-4924483119.9	6.5	3944131087.8	6.5
OCOTILLO	7270	-2335599198.4	99.2	-4832244890.8	92.4	3434393433.5	129.0
ONSALA60	7213	3370608141.9	7.1	711916390.6	5.6	5349830657.1	13.3
OVR 7853	7853	-2410419342.2	4.8	-4477801165.9	11.8	3838691074.5	12.4
OVRO 130	7207	-2409598843.3	2.8	-4478350365.5	7.9	3838603903.0	9.5
PBLOSSOM	7254	-2464068977.8	9.6	-4649426525.6	16.1	3593906324.1	15.2
PENTICTN	7283	-2058838337.4	45.4	-3621287151.3	53.2	4814421378.9	52.9
PINFLATS	7256	-2369634015.0	8.4	-4761325823.6	14.2	3511116771.6	13.9
PLATTVIL	7258	-1240706246.8	8.1	-4720455149.7	11.4	4094482287.1	12.8
PRESIDIO	7252	-2707702910.0	11.0	-4257610540.5	16.0	3888374777.2	17.2
PT REYES	7251	-2732331147.0	12.2	-4217635885.8	16.8	3914491571.3	17.6
PVERDES	7268	-2525450836.8	17.7	-4670036675.3	24.0	3522887344.7	23.3
QUINCY	7221	-2517228945.1	10.7	-4198596031.7	14.7	4076531971.0	15.8
RICHMOND	7219	961259815.7	3.8	-5674090899.7	6.2	2740534239.1	5.3
ROBLED32	1561	4849247210.1	69.4	-360279387.6	19.4	4114884425.3	59.7
SANPAULA	7255	-2554474603.9	40.8	-4608628261.6	70.7	3582138812.7	55.9

SITE	MON	X (mm)	ERR (mm)	Y (mm)	ERR (mm)	Z (mm)	ERR (mm)
SESHAN25	7227	-2831684128.0	80.4	4675732778.3	77.7	3275327737.2	90.9
SHANGHAI	7226	-2847695475.8	155.6	4659871681.5	136.7	3283958897.6	124.9
SNDPOINT	7280	-3425459705.8	42.1	-1214669794.4	80.0	5223858922.5	43.6
SOURDOGH	7281	-2419991343.2	25.7	-1664229430.6	22.2	5643538910.8	19.6
VERNAL	7290	-1631471503.0	35.1	-4589129745.7	36.7	4106760413.7	44.0
VNDNBERG	7223	-2678092751.5	4.3	-4525451859.2	9.3	3597410660.0	10.8
WESTFORD	7209	1492208568.4	-	-4458131326.7	-	4296015874.3	-
WETTZELL	7224	4075542009.3	10.0	931734078.7	6.7	4801629249.3	15.4
WHTHORSE	7284	-2215211601.6	110.5	-2209262295.9	55.8	5540293102.7	51.1
YAKATAGA	7277	-2529742213.0	41.4	-1942092240.3	28.2	5505028479.3	23.8
YELLOWKN	7285	-1224122453.3	28.0	-2689531333.7	37.5	5633555844.4	34.1
YUMA	7894	-2196776089.3	8.3	-4887337846.2	12.1	3448425948.2	13.7

TABLE 5.3
SITE POSITIONS FOR 1981

SITE	MON	X (mm)	ERR (mm)	Y (mm)	ERR (mm)	Z (mm)	ERR (mm)
ALGOPARK	7282	918036704.9	19.6	-4346133023.9	17.3	4561971553.3	19.2
BLKBUTTE	7269	-2306305088.0	11.5	-4787915251.3	15.2	3515737157.1	16.2
CHLBOLTN	7215	4008312079.7	9.9	-100651912.6	5.8	4943794695.2	15.0
DEADMANL	7267	-2336817678.3	95.2	-4732587505.1	171.7	3570330492.7	132.5
DSS15	7231	-2353536901.8	9.8	-4641650282.2	18.7	3676670750.3	17.2
EFLSBERG	7203	4033949524.4	9.3	486989355.9	6.3	4900430688.8	15.6
ELY	7286	-2077234406.4	12.8	-4486713482.1	19.2	4018754466.9	19.3
FLAGSTAF	7261	-1923990843.1	12.5	-4850855315.9	19.8	3658589970.2	20.1
FORT ORD	7266	-2697024808.3	8.7	-4354394287.9	14.9	3788078123.5	15.2
GILCREEK	7225	-2281545050.5	8.5	-1453645734.0	9.5	5756993811.4	14.7
GOLDVENU	1513	-2351127271.4	4.8	-4655477882.6	9.6	3660957596.5	10.8
HARTAO	7232	5085444352.1	60.9	2668261790.4	93.6	-2768697358.0	73.5
HATCREEK	7218	-2523968012.4	4.0	-4123507150.8	8.6	4147753286.7	10.5
HAYSTACK	7205	1492406688.6	1.4	-4457267333.6	2.7	4296882104.0	2.7
HRAS 085	7216	-1324209178.7	2.2	-5332023985.7	8.1	3232119063.8	8.4
JPL MV1	7263	-2493304040.5	6.7	-4655198524.1	13.0	3565519955.3	12.7
KASHIMA	1856	-3997890348.4	22.9	3276580441.9	14.1	3724118868.6	29.5
KAUAI	1311	-5543844211.7	11.0	-2054565358.0	17.5	2387814342.9	21.8
KODIAK	7278	-3026938131.6	23.7	-1575912542.4	30.3	5370363135.5	27.1
KWAJAL26	4968	-6143534917.8	24.0	1363995942.9	26.7	1034707856.2	37.6
MAMMOTHL	7259	-2448244869.3	16.5	-4426739193.0	24.8	3875436607.7	23.7
MARPOINT	7217	1106631202.9	20.0	-4882908020.2	23.2	3938087389.8	26.8
MEDICINA	7230	4461372076.8	14.3	919595582.0	8.1	4449559036.6	21.6
MOJ 7288	7288	-2356492253.5	6.0	-4646608444.9	13.9	3668427365.2	13.4
MOJAVE12	7222	-2356169135.5	2.8	-4646756697.9	8.1	3668471292.0	9.6
MON PEAK	7274	-2386287447.2	4.9	-4802347538.0	10.6	3444884548.1	11.2
NOME	7279	-2658148244.4	40.8	-693822574.4	26.9	5737237186.1	27.4
NRAO 140	7204	882881803.0	1.9	-4924483120.8	6.5	3944131091.6	6.0
OCOTILLO	7270	-2335599227.6	80.5	-4832244909.5	78.9	3434393387.6	106.2
ONSALA60	7213	3370608129.2	6.7	711916399.7	5.3	5349830668.1	13.0
OVR 7853	7853	-2410419358.6	4.8	-4477801167.5	11.8	3838691062.3	12.4
OVRO 130	7207	-2409598862.1	2.5	-4478350358.9	7.8	3838603898.9	9.5
PBLOSSOM	7254	-2464069003.4	9.0	-4649426509.2	15.9	3593906327.9	14.9
PENTICTN	7283	-2058838370.9	38.2	-3621287144.0	46.5	4814421370.0	48.5
PINFLATS	7256	-2369634040.6	7.6	-4761325807.5	13.9	3511116776.0	13.4
PLATTVIL	7258	-1240706263.1	7.0	-4720455148.9	10.9	4094482283.1	12.0
PRESIDIO	7252	-2707702934.4	10.0	-4257610517.9	15.3	3888374785.0	16.3
PT REYES	7251	-2732331169.4	11.2	-4217635855.6	16.3	3914491588.2	17.0
PVERDES	7268	-2525450866.8	16.3	-4670036649.5	23.5	3522887357.4	22.1
QUINCY	7221	-2517228965.5	9.7	-4198596024.7	14.4	4076531965.6	15.4
RICHMOND	7219	961259801.2	3.5	-5674090901.7	6.1	2740534239.9	5.0
ROBLED32	1561	4849247199.9	69.4	-360279368.8	19.4	4114884438.9	59.7
SANPAULA	7255	-2554474638.6	40.3	-4608628235.4	70.1	3582138821.8	56.1

SITE	MON	X (mm)	ERR (mm)	Y (mm)	ERR (mm)	Z (mm)	ERR (mm)
SESHAN25	7227	-2831684153.2	80.4	4675732770.3	77.7	3275327726.8	90.9
SHANGHAI	7226	-2847695500.9	155.6	4659871673.5	136.7	3283958887.2	124.9
SNDPOINT	7280	-3425459735.0	37.2	-1214669797.6	68.5	5223858902.7	41.8
SOURDOGH	7281	-2419991368.8	22.1	-1664229434.7	19.7	5643538898.7	19.2
VERNAL	7290	-1631471504.8	30.1	-4589129735.5	32.9	4106760424.3	38.9
VNDNBERG	7223	-2678092783.1	3.9	-4525451825.7	9.2	3597410678.7	10.7
WESTFORD	7209	1492208550.2	-	-4458131329.6	-	4296015877.7	-
WETTZELL	7224	4075541993.7	9.4	931734091.8	6.1	4801629260.0	15.7
WHTHORSE	7284	-2215211609.2	94.2	-2209262298.4	47.8	5540293098.7	45.8
YAKATAGA	7277	-2529742222.5	35.9	-1942092212.5	25.0	5505028484.7	22.8
YELLOWKN	7285	-1224122471.5	22.9	-2689531337.3	31.3	5633555838.7	32.3
YUMA	7894	-2196776103.4	7.3	-4887337844.7	11.7	3448425941.3	12.9

TABLE 5.4
SITE POSITIONS FOR 1982

SITE	MON	X (mm)	ERR (mm)	Y (mm)	ERR (mm)	Z (mm)	ERR (mm)
ALGOPARK	7282	918036692.2	15.0	-4346133026.6	14.2	4561971553.3	15.9
BLKBUTTE	7269	-2306305109.5	10.1	-4787915247.6	14.6	3515737148.0	15.1
CHLBOLTN	7215	4008312066.4	9.9	-100651896.2	5.8	4943794706.4	15.0
DEADMANL	7267	-2336817693.4	94.3	-4732587502.6	171.1	3570330486.2	131.7
DSS15	7231	-2353536917.6	9.8	-4641650283.8	18.7	3676670738.3	17.2
EFLSBERG	7203	4033949512.7	9.8	486989371.9	7.9	4900430696.9	15.8
ELY	7286	-2077234427.2	11.0	-4486713483.5	18.2	4018754454.5	18.0
FLAGSTAF	7261	-1923990856.6	10.8	-4850855313.3	18.9	3658589966.5	18.3
FORT ORD	7266	-2697024834.7	8.1	-4354394255.0	14.6	3788078142.7	14.8
GILCREEK	7225	-2281545073.9	7.9	-1453645736.6	9.5	5756993801.5	14.7
GOLDVENU	1513	-2351127287.5	4.4	-4655477877.8	9.6	3660957592.3	10.7
HARTRAO	7232	5085444335.1	54.2	2668261841.5	77.8	-2768697340.0	62.5
HATCREEK	7218	-2523968032.1	3.4	-4123507145.2	8.5	4147753280.4	10.5
HAYSTACK	7205	1492406670.9	1.2	-4457267336.4	2.6	4296882107.3	2.6
HRAS 085	7216	-1324209190.6	2.1	-5332023976.4	7.6	3232119053.6	8.1
JPL MV1	7263	-2493304071.1	6.3	-4655198502.7	12.8	3565519962.0	12.5
KASHIMA	1856	-3997890349.1	21.8	3276580450.6	13.3	3724118860.1	29.4
KAUAI	1311	-5543844221.4	10.8	-2054565296.1	17.1	2387814373.6	21.4
KODIAK	7278	-3026938148.3	20.8	-1575912536.3	26.1	5370363127.9	26.3
KWAJAL26	4968	-6143534896.8	23.7	1363996008.8	24.3	1034707894.1	34.7
MAMMOTHL	7259	-2448244892.4	15.2	-4426739183.3	24.2	3875436604.2	22.7
MARPOINT	7217	1106631196.1	8.9	-4882908023.0	16.7	3938087388.2	16.3
MEDICINA	7230	4461372061.4	14.3	919595599.6	8.1	4449559048.5	21.6
MOJ 7288	7288	-2356492269.3	6.0	-4646608446.4	13.9	3668427353.1	13.4
MOJAVE12	7222	-2356169151.3	2.5	-4646756692.8	8.1	3668471288.4	9.7
MON PEAK	7274	-2386287480.2	4.4	-4802347511.7	10.5	3444884561.9	11.1
NOME	7279	-2658148271.7	34.7	-693822576.4	22.9	5737237173.2	26.2
NRAO 140	7204	882881781.1	1.9	-4924483121.7	6.6	3944131095.4	5.8
OCOTILLO	7270	-2335599256.7	62.3	-4832244928.2	66.7	3434393341.8	84.1
ONSALA60	7213	3370608116.6	6.6	711916408.7	5.0	5349830679.0	13.1
OVR 7853	7853	-2410419375.0	4.8	-4477801169.1	11.8	3838691050.1	12.4
OVRO 130	7207	-2409598880.8	2.2	-4478350352.3	7.8	3838603894.7	9.6
PBLOSSOM	7254	-2464069029.0	8.4	-4649426492.8	15.7	3593906331.6	14.6
PENTICTN	7283	-2058838404.3	31.4	-3621287136.8	40.5	4814421361.1	44.7
PINFLATS	7256	-2369634066.2	6.9	-4761325791.5	13.6	3511116780.4	13.1
PLATTVIL	7258	-1240706279.4	5.9	-4720455148.0	10.5	4094482279.1	11.3
PRESIDIO	7252	-2707702958.7	9.0	-4257610495.4	14.7	3888374792.9	15.6
PT REYES	7251	-2732331191.7	10.3	-4217635825.4	15.9	3914491605.2	16.4
PVERDES	7268	-2525450896.8	15.0	-4670036623.9	23.0	3522887370.0	21.0
QUINCY	7221	-2517228985.9	8.9	-4198596017.6	14.1	4076531960.3	15.1
RICHMOND	7219	961259786.7	3.2	-5674090903.8	6.0	2740534240.7	4.8
ROBLED32	1561	4849247189.8	69.4	-360279350.0	19.4	4114884452.5	59.7
SANPAULA	7255	-2554474673.2	39.7	-4608628209.3	69.6	3582138830.8	56.3

SITE	MON	X (mm)	ERR (mm)	Y (mm)	ERR (mm)	Z (mm)	ERR (mm)
SESHAN25	7227	-2831684178.2	80.4	4675732762.4	77.7	3275327716.5	90.9
SHANGHAI	7226	-2847695525.9	155.6	4659871665.5	136.7	3283958876.8	124.9
SNDPOINT	7280	-3425459764.1	32.8	-1214669800.8	57.2	5223858882.9	40.3
SOURDOGH	7281	-2419991394.3	18.6	-1664229438.8	17.2	5643538886.5	18.8
VERNAL	7290	-1631471506.7	25.2	-4589129725.4	29.3	4106760434.7	34.1
VNDNBERG	7223	-2678092814.6	3.4	-4525451792.2	9.1	3597410697.4	10.7
WESTFORD	7209	1492208532.0	-	-4458131332.4	-	4296015881.1	-
WETTZELL	7224	4075541978.2	9.0	931734104.8	5.7	4801629270.6	16.1
WHTHORSE	7284	-2215211616.8	77.9	-2209262300.9	40.0	5540293094.6	40.9
YAKATAGA	7277	-2529742231.9	30.5	-1942092184.8	21.8	5505028490.0	22.0
YELLOWKN	7285	-1224122489.7	18.0	-2689531341.0	25.5	5633555833.0	30.8
YUMA	7894	-2196776117.5	6.4	-4887337843.2	11.3	3448425934.4	12.2

TABLE 5.5
SITE POSITIONS FOR 1983

SITE	MON	X (mm)	ERR (mm)	Y (mm)	ERR (mm)	Z (mm)	ERR (mm)
ALGOPARK	7282	918036679.4	10.5	-4346133029.3	11.5	4561971553.3	12.9
BLKBUTTE	7269	-2306305131.0	8.7	-4787915243.9	14.1	3515737138.9	14.2
CHLBOLTN	7215	4008312053.0	9.9	-100651879.9	5.8	4943794717.5	15.0
DEADMANL	7267	-2336817708.5	93.6	-4732587500.0	170.7	3570330479.7	131.0
DSS15	7231	-2353536933.4	9.8	-4641650285.3	18.7	3676670726.2	17.2
EFLSBERG	7203	4033949501.0	11.1	486989387.8	11.3	4900430705.0	16.3
ELY	7286	-2077234448.1	9.4	-4486713485.0	17.4	4018754442.1	16.8
FLAGSTAF	7261	-1923990870.1	9.2	-4850855310.7	18.2	3658589962.9	16.8
FORT ORD	7266	-2697024861.1	7.7	-4354394222.0	14.4	3788078161.8	14.6
GILCREEK	7225	-2281545097.3	7.4	-1453645739.2	9.4	5756993791.5	14.7
GOLDVENU	1513	-2351127303.5	4.1	-4655477873.0	9.6	3660957588.1	10.8
HARTRAO	7232	5085444318.1	48.3	2668261892.7	62.6	-2768697322.0	51.9
HATCREEK	7218	-2523968051.8	3.0	-4123507139.5	8.5	4147753274.0	10.5
HAYSTACK	7205	1492406653.2	1.1	-4457267339.2	2.5	4296882110.5	2.6
HRAS 085	7216	-1324209202.5	2.0	-5332023967.1	7.1	3232119043.4	7.9
JPL MV1	7263	-2493304101.7	5.9	-4655198481.3	12.6	3565519968.7	12.4
KASHIMA	1856	-3997890349.8	20.9	3276580459.3	12.7	3724118851.6	29.4
KAUAI	1311	-5543844231.2	10.5	-2054565234.3	16.8	2387814404.4	21.2
KODIAK	7278	-3026938164.9	18.1	-1575912530.2	22.2	5370363120.3	25.6
KWAJAL26	4968	-6143534875.8	23.5	1363996074.6	22.4	1034707931.9	32.2
MAMMOTHL	7259	-2448244915.5	14.1	-4426739173.5	23.8	3875436600.7	22.0
MARPOINT	7217	1106631189.3	6.5	-4882908025.8	17.0	3938087386.6	14.5
MEDICINA	7230	4461372045.9	14.3	919595617.3	8.1	4449559060.3	21.6
MOJ 7288	7288	-2356492285.1	6.0	-4646608447.9	13.9	3668427341.1	13.4
MOJAVE12	7222	-2356169167.2	2.2	-4646756687.6	8.1	3668471284.7	9.8
MON PEAK	7274	-2386287513.2	4.1	-4802347485.4	10.5	3444884575.7	11.0
NOME	7279	-2658148299.0	28.8	-693822578.4	19.1	5737237160.4	25.5
NRAO 140	7204	882881759.2	2.6	-4924483122.6	6.9	3944131099.1	5.9
OCOTILLO	7270	-2335599285.8	45.0	-4832244946.8	56.4	3434393296.0	63.2
ONSALA60	7213	3370608104.0	6.9	711916417.8	4.8	5349830690.0	13.7
OVR 7853	7853	-2410419391.4	4.8	-4477801170.7	11.8	3838691037.9	12.4
OVRO 130	7207	-2409598899.6	2.0	-4478350345.6	7.9	3838603890.6	9.7
PBLOSSOM	7254	-2464069054.6	8.0	-4649426476.5	15.6	3593906335.4	14.4
PENTICTN	7283	-2058838437.7	25.3	-3621287129.6	35.5	4814421352.3	41.6
PINFLATS	7256	-2369634091.7	6.4	-4761325775.4	13.5	3511116784.9	12.8
PLATTVIL	7258	-1240706295.6	4.9	-4720455147.2	10.3	4094482275.1	10.7
PRESIDIO	7252	-2707702983.0	8.2	-4257610472.8	14.2	3888374800.7	15.0
PT REYES	7251	-2732331214.0	9.5	-4217635795.3	15.6	3914491622.1	16.0
PVERDES	7268	-2525450926.7	13.8	-4670036598.2	22.6	3522887382.6	20.1
QUINCY	7221	-2517229006.2	8.1	-4198596010.6	14.0	4076531954.9	14.9
RICHMOND	7219	961259772.2	3.1	-5674090905.8	5.9	2740534241.5	4.6
ROBLED32	1561	4849247179.6	69.4	-360279331.2	19.4	4114884466.1	59.7
SANPAULA	7255	-2554474707.8	39.3	-4608628183.2	69.2	3582138839.9	56.6

SITE	MON	X (mm)	ERR (mm)	Y (mm)	ERR (mm)	Z (mm)	ERR (mm)
SESHAN25	7227	-2831684203.3	80.4	4675732754.5	77.7	3275327706.1	90.9
SHANGHAI	7226	-2847695550.9	155.6	4659871657.5	136.7	3283958866.4	124.9
SNDPOINT	7280	-3425459793.2	29.1	-1214669804.0	46.1	5223858863.1	39.2
SOURDOGH	7281	-2419991419.8	15.2	-1664229442.9	15.0	5643538874.4	18.6
VERNAL	7290	-1631471508.6	20.4	-4589129715.2	26.0	4106760445.2	29.4
VNDNBERG	7223	-2678092846.2	3.1	-4525451758.7	9.1	3597410716.1	10.7
WESTFORD	7209	1492208513.8	-	-4458131335.3	-	4296015884.5	-
WETTZELL	7224	4075541962.7	9.0	931734117.8	5.4	4801629281.3	16.6
WHTHORSE	7284	-2215211624.4	61.7	-2209262303.4	32.4	5540293090.5	36.6
YAKATAGA	7277	-2529742241.3	25.2	-1942092157.1	18.9	5505028495.3	21.3
YELLOWKN	7285	-1224122507.9	13.3	-2689531344.6	20.3	5633555827.3	29.7
YUMA	7894	-2196776131.6	5.5	-4887337841.6	11.0	3448425927.6	11.6

TABLE 5.6
SITE POSITIONS FOR 1984

SITE	MON	X (mm)	ERR (mm)	Y (mm)	ERR (mm)	Z (mm)	ERR (mm)
ALGOPARK	7282	918036666.7	6.0	-4346133031.9	9.5	4561971553.3	10.4
BLKBUTTE	7269	-2306305152.6	7.4	-4787915240.2	13.8	3515737129.7	13.4
CHLBOLTN	7215	4008312039.7	9.9	-100651863.5	5.8	4943794728.7	15.0
DEADMANL	7267	-2336817723.6	93.0	-4732587497.4	170.3	3570330473.2	130.5
DSS15	7231	-2353536949.2	9.8	-4641650286.8	18.7	3676670714.2	17.2
EFLSBERG	7203	4033949489.3	12.8	486989403.8	15.5	4900430713.1	17.1
ELY	7286	-2077234469.0	8.1	-4486713486.4	16.9	4018754429.6	16.0
FLAGSTAF	7261	-1923990883.6	7.9	-4850855308.1	17.6	3658589959.2	15.6
FORT ORD	7266	-2697024887.5	7.4	-4354394189.0	14.3	3788078180.9	14.4
GILCREEK	7225	-2281545120.7	6.9	-1453645741.9	9.5	5756993781.6	14.7
GOLDVENU	1513	-2351127319.6	3.8	-4655477868.1	9.7	3660957583.9	10.8
HARTRAO	7232	5085444301.0	43.4	2668261943.8	48.3	-2768697303.9	42.2
HATCREEK	7218	-2523968071.5	2.6	-4123507133.8	8.6	4147753267.6	10.6
HAYSTACK	7205	1492406635.4	1.1	-4457267342.0	2.4	4296882113.7	2.6
HRAS 085	7216	-1324209214.4	2.0	-5332023957.9	6.9	3232119033.2	7.8
JPL MV1	7263	-2493304132.3	5.6	-4655198459.8	12.6	3565519975.4	12.4
KASHIMA	1856	-3997890350.6	20.0	3276580468.1	12.3	3724118843.1	29.6
KAUAI	1311	-5543844240.9	10.3	-2054565172.4	16.5	2387814435.1	21.0
KODIAK	7278	-3026938181.5	15.7	-1575912524.1	18.5	5370363112.7	25.1
KWAJAL26	4968	-6143534854.8	23.3	1363996140.4	20.9	1034707969.8	30.5
MAMMOTHL	7259	-2448244938.5	13.2	-4426739163.7	23.5	3875436597.2	21.4
MARPOINT	7217	1106631182.5	17.0	-4882908028.6	23.8	3938087385.1	23.4
MEDICINA	7230	4461372030.5	14.3	919595634.9	8.1	4449559072.2	21.6
MOJ 7288	7288	-2356492300.8	6.0	-4646608449.4	13.9	3668427329.0	13.4
MOJAVE12	7222	-2356169183.0	2.0	-4646756682.4	8.2	3668471281.0	9.9
MON PEAK	7274	-2386287546.3	3.8	-4802347459.1	10.5	3444884589.5	11.0
NOME	7279	-2658148326.3	23.2	-693822580.4	15.7	5737237147.5	25.1
NRAO 140	7204	882881737.4	3.6	-4924483123.5	7.3	3944131102.9	6.3
OCOTILLO	7270	-2335599314.9	30.2	-4832244965.5	49.2	3434393250.2	45.4
ONSALA60	7213	3370608091.4	7.6	711916426.8	4.8	5349830700.9	14.5
OVR 7853	7853	-2410419407.8	4.8	-4477801172.3	11.8	3838691025.7	12.4
OVRO 130	7207	-2409598918.3	1.8	-4478350339.0	7.9	3838603886.5	9.8
PBLOSSOM	7254	-2464069080.1	7.6	-4649426460.1	15.6	3593906339.1	14.3
PENTICTN	7283	-2058838471.1	20.4	-3621287122.4	32.1	4814421343.4	39.4
PINFLATS	7256	-2369634117.3	5.9	-4761325759.3	13.3	3511116789.2	12.7
PLATTVIL	7258	-1240706311.9	3.9	-4720455146.3	10.1	4094482271.1	10.3
PRESIDIO	7252	-2707703007.3	7.5	-4257610450.3	13.9	3888374808.5	14.6
PT REYES	7251	-2732331236.4	8.8	-4217635765.1	15.3	3914491639.0	15.8
PVERDES	7268	-2525450956.6	12.9	-4670036572.6	22.4	3522887395.2	19.4
QUINCY	7221	-2517229026.5	7.4	-4198596003.6	14.0	4076531949.5	14.8
RICHMOND	7219	961259757.8	3.0	-5674090907.9	5.9	2740534242.3	4.5
ROBLED32	1561	4849247169.5	69.4	-360279312.4	19.4	4114884479.8	59.7
SANPAULA	7255	-2554474742.3	38.9	-4608628157.1	68.8	3582138848.9	56.9

SITE	MON	X (mm)	ERR (mm)	Y (mm)	ERR (mm)	Z (mm)	ERR (mm)
SESHAN25	7227	-2831684228.3	80.4	4675732746.5	77.7	3275327695.8	90.9
SHANGHAI	7226	-2847695576.0	155.6	4659871649.5	136.7	3283958856.0	124.9
SNDPOINT	7280	-3425459822.3	26.2	-1214669807.2	35.2	5223858843.3	38.5
SOURDOGH	7281	-2419991445.3	12.0	-1664229446.9	13.0	5643538862.3	18.3
VERNAL	7290	-1631471510.4	15.7	-4589129705.1	23.3	4106760455.7	25.2
VNDNBERG	7223	-2678092877.7	2.7	-4525451725.2	9.1	3597410734.7	10.8
WESTFORD	7209	1492208495.5	-	-4458131338.1	-	4296015887.8	-
WETTZELL	7224	4075541947.2	9.3	931734130.9	5.3	4801629291.9	17.3
WHTHORSE	7284	-2215211631.9	45.7	-2209262305.9	25.2	5540293086.5	33.1
YAKATAGA	7277	-2529742250.7	20.0	-1942092129.3	16.2	5505028500.7	20.6
YELLOWKN	7285	-1224122526.0	9.4	-2689531348.2	16.5	5633555821.6	29.0
YUMA	7894	-2196776145.7	4.7	-4887337840.1	10.8	3448425920.7	11.2

TABLE 5.7
SITE POSITIONS FOR 1985

SITE	MON	X (mm)	ERR (mm)	Y (mm)	ERR (mm)	Z (mm)	ERR (mm)
ALGOPARK	7282	918036653.8	2.6	-4346133034.6	8.7	4561971553.3	8.9
BLKBUTTE	7269	-2306305174.2	6.5	-4787915236.5	13.6	3515737120.6	13.0
CHLBOLTN	7215	4008312026.3	9.9	-100651847.1	5.8	4943794739.8	15.0
DEADMANL	7267	-2336817738.7	92.6	-4732587494.8	169.9	3570330466.6	130.2
DSS15	7231	-2353536965.0	9.8	-4641650288.4	18.7	3676670702.1	17.2
EFLSBERG	7203	4033949477.5	14.9	486989419.9	19.9	4900430721.2	18.2
ELY	7286	-2077234490.0	7.2	-4486713487.9	16.6	4018754417.2	15.5
FLAGSTAF	7261	-1923990897.1	6.9	-4850855305.5	17.3	3658589955.5	14.8
FORT ORD	7266	-2697024914.0	7.2	-4354394156.0	14.3	3788078200.1	14.4
GILCREEK	7225	-2281545144.1	6.4	-1453645744.5	9.6	5756993771.7	14.7
GOLDVENU	1513	-2351127335.7	3.6	-4655477863.3	9.8	3660957579.6	11.0
HARTRAO	7232	5085444284.0	40.0	2668261995.0	36.1	-2768697285.8	34.0
HATCREEK	7218	-2523968091.3	2.2	-4123507128.1	8.7	4147753261.2	10.7
HAYSTACK	7205	1492406617.6	1.2	-4457267344.8	2.4	4296882117.0	2.6
HRAS 085	7216	-1324209226.3	2.2	-5332023948.6	6.8	3232119023.0	7.8
JPL MV1	7263	-2493304163.0	5.4	-4655198438.3	12.6	3565519982.1	12.5
KASHIMA	1856	-3997890351.3	19.4	3276580476.8	12.1	3724118834.6	29.9
KAUAI	1311	-5543844250.6	10.2	-2054565110.3	16.4	2387814465.9	20.9
KODIAK	7278	-3026938198.1	13.7	-1575912517.9	15.5	5370363105.1	24.7
KWAJAL26	4968	-6143534833.7	23.2	1363996206.4	20.0	1034708007.8	29.5
MAMMOTHL	7259	-2448244961.7	12.6	-4426739153.9	23.4	3875436593.8	21.1
MARPOINT	7217	1106631175.7	28.7	-4882908031.4	33.4	3938087383.5	35.8
MEDICINA	7230	4461372015.0	14.3	919595652.6	8.1	4449559084.1	21.6
MOJ 7288	7288	-2356492316.6	6.0	-4646608451.0	13.9	3668427316.9	13.4
MOJAVE12	7222	-2356169198.9	1.8	-4646756677.2	8.3	3668471277.3	10.0
MON PEAK	7274	-2386287579.4	3.7	-4802347432.8	10.6	3444884603.4	11.1
NOME	7279	-2658148353.6	18.1	-693822582.4	13.0	5737237134.6	25.2
NRAO 140	7204	882881715.4	4.7	-4924483124.4	7.9	3944131106.6	6.9
OCOTILLO	7270	-2335599344.1	23.5	-4832244984.2	46.7	3434393204.2	35.4
ONSALA60	7213	3370608078.7	8.5	711916435.9	4.9	5349830711.9	15.7
OVR 7853	7853	-2410419424.2	4.8	-4477801174.0	11.8	3838691013.5	12.4
OVRO 130	7207	-2409598937.1	1.7	-4478350332.4	8.0	3838603882.4	10.0
PBLOSSOM	7254	-2464069105.8	7.4	-4649426443.7	15.6	3593906342.9	14.3
PENTICTN	7283	-2058838504.6	17.8	-3621287115.2	30.6	4814421334.5	38.3
PINFLATS	7256	-2369634143.0	5.6	-4761325743.2	13.2	3511116793.7	12.7
PLATTVIL	7258	-1240706328.2	3.1	-4720455145.5	10.1	4094482267.2	10.0
PRESIDIO	7252	-2707703031.7	7.1	-4257610427.7	13.7	3888374816.4	14.4
PT REYES	7251	-2732331258.8	8.4	-4217635734.9	15.2	3914491656.0	15.7
PVERDES	7268	-2525450986.6	12.1	-4670036546.8	22.3	3522887407.9	19.0
QUINCY	7221	-2517229047.0	7.0	-4198595996.5	14.1	4076531944.1	14.8
RICHMOND	7219	961259743.3	3.1	-5674090910.0	5.8	2740534243.1	4.5
ROBLED32	1561	4849247159.3	69.4	-360279293.6	19.4	4114884493.4	59.7
SANPAULA	7255	-2554474777.0	38.6	-4608628130.9	68.4	3582138857.9	57.4

SITE	MON	X (mm)	ERR (mm)	Y (mm)	ERR (mm)	Z (mm)	ERR (mm)
SESHAN25	7227	-2831684253.4	80.4	4675732738.6	77.7	3275327685.4	90.9
SHANGHAI	7226	-2847695601.0	155.6	4659871641.5	136.7	3283958845.6	124.9
SNDPOINT	7280	-3425459851.5	24.6	-1214669810.4	24.9	5223858823.4	38.3
SOURDOGH	7281	-2419991470.9	9.2	-1664229451.0	11.5	5643538850.1	18.1
VERNAL	7290	-1631471512.3	11.5	-4589129694.9	21.3	4106760466.2	21.5
VNDNBERG	7223	-2678092909.3	2.5	-4525451691.7	9.2	3597410753.5	10.9
WESTFORD	7209	1492208477.3	-	-4458131341.0	-	4296015891.2	-
WETTZELL	7224	4075541931.6	9.9	931734144.0	5.4	4801629302.6	18.0
WHTHORSE	7284	-2215211639.5	30.1	-2209262308.4	19.0	5540293082.4	30.7
YAKATAGA	7277	-2529742260.1	15.0	-1942092101.6	13.9	5505028506.0	20.1
YELLOWKN	7285	-1224122544.3	7.3	-2689531351.9	14.9	5633555815.9	28.7
YUMA	7894	-2196776159.9	4.1	-4887337838.6	10.7	3448425913.8	11.0

TABLE 5.8
SITE POSITIONS FOR 1986

SITE	MON	X (mm)	ERR (mm)	Y (mm)	ERR (mm)	Z (mm)	ERR (mm)
ALGOPARK	7282	918036641.1	4.4	-4346133037.3	9.4	4561971553.4	8.7
BLKBUTTE	7269	-2306305195.7	5.8	-4787915232.8	13.5	3515737111.5	12.8
CHLBOLTN	7215	4008312013.0	9.9	-100651830.8	5.8	4943794751.0	15.0
DEADMANL	7267	-2336817753.8	92.4	-4732587492.3	169.6	3570330460.1	130.0
DSS15	7231	-2353536980.8	9.8	-4641650289.9	18.7	3676670690.1	17.2
EFLSBERG	7203	4033949465.8	17.1	486989435.9	24.4	4900430729.2	19.5
ELY	7286	-2077234510.9	6.9	-4486713489.4	16.5	4018754404.8	15.3
FLAGSTAF	7261	-1923990910.7	6.6	-4850855302.9	17.3	3658589951.8	14.5
FORT ORD	7266	-2697024940.4	7.2	-4354394123.0	14.4	3788078219.2	14.5
GILCREEK	7225	-2281545167.5	6.0	-1453645747.1	9.8	5756993761.7	14.7
GOLDVENU	1513	-2351127351.7	3.4	-4655477858.5	9.9	3660957575.4	11.1
HARTRAO	7232	5085444267.0	38.4	2668262046.2	28.9	-2768697267.8	28.8
HATCREEK	7218	-2523968111.0	2.1	-4123507122.4	8.8	4147753254.8	10.9
HAYSTACK	7205	1492406599.9	1.4	-4457267347.7	2.5	4296882120.2	2.7
HRAS 085	7216	-1324209238.2	2.3	-5332023939.3	6.9	3232119012.8	8.0
JPL MV1	7263	-2493304193.5	5.3	-4655198416.9	12.6	3565519988.8	12.6
KASHIMA	1856	-3997890352.0	18.9	3276580485.5	12.0	3724118826.1	30.3
KAUAI	1311	-5543844260.3	10.0	-2054565048.4	16.4	2387814496.6	20.9
KODIAK	7278	-3026938214.8	12.4	-1575912511.8	13.6	5370363097.5	24.4
KWAJAL26	4968	-6143534812.7	23.1	1363996272.2	19.8	1034708045.7	29.4
MAMMOTHL	7259	-2448244984.8	12.2	-4426739144.1	23.4	3875436590.3	21.0
MARPOINT	7217	1106631168.9	40.5	-4882908034.3	43.9	3938087382.0	49.1
MEDICINA	7230	4461371999.5	14.3	919595670.2	8.1	4449559095.9	21.6
MOJ 7288	7288	-2356492332.4	6.0	-4646608452.5	13.9	3668427304.9	13.4
MOJAVE12	7222	-2356169214.7	1.8	-4646756672.0	8.4	3668471273.7	10.2
MON PEAK	7274	-2386287612.4	3.7	-4802347406.5	10.7	3444884617.2	11.3
NOME	7279	-2658148380.9	14.0	-693822584.4	11.5	5737237121.7	25.7
NRAO 140	7204	882881693.6	5.9	-4924483125.3	8.5	3944131110.4	7.7
OCOTILLO	7270	-2335599373.2	30.6	-4832245002.8	49.4	3434393158.4	39.9
ONSALA60	7213	3370608066.1	9.6	711916445.0	5.2	5349830722.9	17.1
OVR 7853	7853	-2410419440.6	4.8	-4477801175.6	11.8	3838691001.4	12.4
OVRO 130	7207	-2409598955.9	1.7	-4478350325.8	8.2	3838603878.3	10.2
PBLOSSOM	7254	-2464069131.4	7.2	-4649426427.4	15.6	3593906346.6	14.5
PENTICTN	7283	-2058838538.1	18.6	-3621287107.9	31.5	4814421325.7	38.3
PINFLATS	7256	-2369634168.5	5.5	-4761325727.2	13.2	3511116798.1	12.8
PLATTVIL	7258	-1240706344.5	2.6	-4720455144.7	10.2	4094482263.2	10.0
PRESIDIO	7252	-2707703056.0	6.9	-4257610405.2	13.7	3888374824.2	14.5
PT REYES	7251	-2732331281.1	8.1	-4217635704.7	15.3	3914491673.0	15.8
PVERDES	7268	-2525451016.6	11.6	-4670036521.2	22.3	3522887420.5	18.7
QUINCY	7221	-2517229067.3	6.7	-4198595989.5	14.2	4076531938.8	15.0
RICHMOND	7219	961259728.8	3.3	-5674090912.0	5.8	2740534243.9	4.6
ROBLED32	1561	4849247149.1	69.4	-360279274.8	19.4	4114884507.0	59.7
SANPAULA	7255	-2554474811.6	38.3	-4608628104.8	68.1	3582138867.0	57.9

SITE	MON	X (mm)	ERR (mm)	Y (mm)	ERR (mm)	Z (mm)	ERR (mm)
SESHAN25	7227	-2831684278.5	80.4	4675732730.7	77.7	3275327675.1	90.9
SHANGHAI	7226	-2847695626.1	155.6	4659871633.6	136.7	3283958835.3	124.9
SNDPOINT	7280	-3425459880.7	24.5	-1214669813.7	16.6	5223858803.6	38.5
SOURDOGH	7281	-2419991496.4	7.4	-1664229455.1	10.7	5643538838.0	18.0
VERNAL	7290	-1631471514.1	8.4	-4589129684.7	20.1	4106760476.7	18.8
VNDNBERG	7223	-2678092940.8	2.4	-4525451658.2	9.3	3597410772.1	11.1
WESTFORD	7209	1492208459.1	-	-4458131343.8	-	4296015894.6	-
WETTZELL	7224	4075541916.1	10.8	931734157.0	5.8	4801629313.2	18.7
WHTHORSE	7284	-2215211647.1	16.3	-2209262310.9	14.9	5540293078.3	29.5
YAKATAGA	7277	-2529742269.5	10.8	-1942092073.8	12.3	5505028511.4	19.8
YELLOWKN	7285	-1224122562.4	8.6	-2689531355.5	16.3	5633555810.2	28.9
YUMA	7894	-2196776174.0	3.8	-4887337837.1	10.7	3448425907.0	11.0

TABLE 5.9
SITE POSITIONS FOR 1987

SITE	MON	X (mm)	ERR (mm)	Y (mm)	ERR (mm)	Z (mm)	ERR (mm)
ALGOPARK	7282	918036628.3	8.7	-4346133040.0	11.3	4561971553.4	10.1
BLKBUTTE	7269	-2306305217.2	5.7	-4787915229.2	13.6	3515737102.3	12.9
CHLBOLTN	7215	4008311999.7	9.9	-100651814.4	5.8	4943794762.1	15.0
DEADMANL	7267	-2336817769.0	92.4	-4732587489.7	169.4	3570330453.6	130.0
DSS15	7231	-2353536996.6	9.8	-4641650291.4	18.7	3676670678.0	17.2
EFLSBERG	7203	4033949454.1	19.5	486989451.8	29.0	4900430737.3	21.0
ELY	7286	-2077234531.8	7.3	-4486713490.8	16.8	4018754392.4	15.5
FLAGSTAF	7261	-1923990924.2	6.9	-4850855300.2	17.4	3658589948.1	14.7
FORT ORD	7266	-2697024966.7	7.4	-4354394090.1	14.5	3788078238.3	14.7
GILCREEK	7225	-2281545190.9	5.6	-1453645749.8	10.1	5756993751.8	14.7
GOLDVENU	1513	-2351127367.8	3.4	-4655477853.6	10.1	3660957571.2	11.4
HARTRAO	7232	5085444250.0	38.8	2668262097.3	30.5	-2768697249.8	28.3
HATCREEK	7218	-2523968130.7	2.1	-4123507116.7	9.0	4147753248.4	11.1
HAYSTACK	7205	1492406582.2	1.7	-4457267350.5	2.5	4296882123.5	2.8
HRAS 085	7216	-1324209250.1	2.6	-5332023930.1	7.1	3232119002.6	8.3
JPL MV1	7263	-2493304224.1	5.4	-4655198395.5	12.7	3565519995.5	12.9
KASHIMA	1856	-3997890352.8	18.6	3276580494.2	12.2	3724118817.7	30.9
KAUAI	1311	-5543844270.0	10.0	-2054564986.6	16.4	2387814527.3	21.0
KODIAK	7278	-3026938231.4	12.1	-1575912505.7	13.1	5370363089.9	24.3
KWAJAL26	4968	-6143534791.7	23.0	1363996338.1	20.2	1034708083.6	30.3
MAMMOTHL	7259	-2448245007.8	12.2	-4426739134.3	23.6	3875436586.8	21.2
MARPOINT	7217	1106631162.2	52.4	-4882908037.0	54.8	3938087380.4	62.8
MEDICINA	7230	4461371984.0	14.3	919595687.9	8.1	4449559107.8	21.6
MOJ 7288	7288	-2356492348.1	6.0	-4646608454.0	13.9	3668427292.8	13.4
MOJAVE12	7222	-2356169230.6	1.8	-4646756666.8	8.6	3668471270.0	10.4
MON PEAK	7274	-2386287645.5	3.8	-4802347380.2	10.8	3444884631.0	11.5
NOME	7279	-2658148408.2	12.2	-693822586.4	11.6	5737237108.8	26.6
NRAO 140	7204	882881671.7	7.1	-4924483126.2	9.2	3944131114.1	8.6
OCOTILLO	7270	-2335599402.2	45.5	-4832245021.5	56.7	3434393112.6	55.3
ONSALA60	7213	3370608053.5	10.8	711916454.0	5.6	5349830733.8	18.7
OVR 7853	7853	-2410419457.0	4.8	-4477801177.2	11.8	3838690989.2	12.4
OVRO 130	7207	-2409598974.6	1.8	-4478350319.2	8.4	3838603874.2	10.4
PBLOSSOM	7254	-2464069156.9	7.2	-4649426411.0	15.7	3593906350.4	14.7
PENTICTN	7283	-2058838571.5	22.3	-3621287100.7	34.5	4814421316.8	39.4
PINFLATS	7256	-2369634194.1	5.5	-4761325711.1	13.3	3511116802.5	13.0
PLATTVIL	7258	-1240706360.7	2.7	-4720455143.8	10.4	4094482259.2	10.0
PRESIDIO	7252	-2707703080.4	6.9	-4257610382.7	13.9	3888374832.0	14.7
PT REYES	7251	-2732331303.5	8.1	-4217635674.6	15.4	3914491689.9	16.0
PVERDES	7268	-2525451046.5	11.4	-4670036495.5	22.4	3522887433.1	18.8
QUINCY	7221	-2517229087.6	6.7	-4198595982.5	14.5	4076531933.4	15.2
RICHMOND	7219	961259714.3	3.6	-5674090914.1	5.7	2740534244.7	4.7
ROBLED32	1561	4849247139.0	69.4	-360279256.0	19.4	4114884520.6	59.7
SANPAULA	7255	-2554474846.2	38.1	-4608628078.7	67.8	3582138876.0	58.5

SITE	MON	X (mm)	ERR (mm)	Y (mm)	ERR (mm)	Z (mm)	ERR (mm)
SESHAN25	7227	-2831684303.5	80.4	4675732722.7	77.7	3275327664.7	90.9
SHANGHAI	7226	-2847695651.1	155.6	4659871625.6	136.7	3283958824.9	124.9
SNDPOINT	7280	-3425459909.8	25.8	-1214669816.9	14.1	5223858783.8	39.1
SOURDOGH	7281	-2419991522.0	7.2	-1664229459.1	10.6	5643538825.8	17.9
VERNAL	7290	-1631471516.0	7.8	-4589129674.5	20.0	4106760487.2	17.5
VNDNBERG	7223	-2678092972.4	2.4	-4525451624.7	9.5	3597410790.8	11.3
WESTFORD	7209	1492208440.9	-	-4458131346.7	-	4296015898.0	-
WETZELL	7224	4075541900.5	11.9	931734170.1	6.2	4801629323.9	19.6
WHTHORSE	7284	-2215211654.7	13.0	-2209262313.4	14.8	5540293074.2	29.8
YAKATAGA	7277	-2529742278.9	8.2	-1942092046.1	11.5	5505028516.7	19.5
YELLOWKN	7285	-1224122580.6	12.3	-2689531359.1	20.1	5633555804.6	29.5
YUMA	7894	-2196776188.1	3.7	-4887337835.5	10.8	3448425900.1	11.2

TABLE 5.10
SITE POSITIONS FOR 1988

SITE	MON	X (mm)	ERR (mm)	Y (mm)	ERR (mm)	Z (mm)	ERR (mm)
ALGOPARK	7282	918036615.6	13.3	-4346133042.7	14.0	4561971553.4	12.5
BLKBUTTE	7269	-2306305238.8	6.1	-4787915225.5	13.9	3515737093.2	13.3
CHLBOLTN	7215	4008311986.3	9.9	-100651798.1	5.8	4943794773.3	15.0
DEADMANL	7267	-2336817784.0	92.5	-4732587487.1	169.3	3570330447.1	130.1
DSS15	7231	-2353537012.4	9.8	-4641650293.0	18.7	3676670666.0	17.2
EFLSBERG	7203	4033949442.4	22.0	486989467.8	33.6	4900430745.4	22.6
ELY	7286	-2077234552.6	8.3	-4486713492.3	17.3	4018754379.9	16.1
FLAGSTAF	7261	-1923990937.7	7.8	-4850855297.6	17.8	3658589944.4	15.4
FORT ORD	7266	-2697024993.1	7.6	-4354394057.1	14.8	3788078257.5	15.0
GILCREEK	7225	-2281545214.3	5.4	-1453645752.4	10.4	5756993741.9	14.7
GOLDVENU	1513	-2351127383.8	3.5	-4655477848.8	10.3	3660957567.0	11.6
HARTRAO	7232	5085444233.0	41.2	2668262148.4	39.8	-2768697231.7	32.7
HATCREEK	7218	-2523968150.4	2.3	-4123507111.1	9.3	4147753242.0	11.3
HAYSTACK	7205	1492406564.4	1.9	-4457267353.3	2.7	4296882126.7	3.0
HRAS 085	7216	-1324209262.0	2.9	-5332023920.8	7.6	3232118992.4	8.7
JPL MV1	7263	-2493304254.7	5.5	-4655198374.0	12.9	3565520002.2	13.2
KASHIMA	1856	-3997890353.5	18.4	3276580503.0	12.6	3724118809.2	31.6
KAUAI	1311	-5543844279.8	10.0	-2054564924.7	16.6	2387814558.0	21.1
KODIAK	7278	-3026938248.0	12.7	-1575912499.6	14.3	5370363082.3	24.4
KWAJAL26	4968	-6143534770.7	23.1	1363996403.9	21.4	1034708121.4	31.9
MAMMOTHL	7259	-2448245030.9	12.4	-4426739124.6	24.0	3875436583.4	21.7
MARPOINT	7217	1106631155.4	64.3	-4882908039.9	66.0	3938087378.9	76.5
MEDICINA	7230	4461371968.6	14.3	919595705.5	8.1	4449559119.6	21.6
MOJ 7288	7288	-2356492363.9	6.0	-4646608455.5	13.9	3668427280.8	13.4
MOJAVE12	7222	-2356169246.4	1.9	-4646756661.6	8.8	3668471266.4	10.7
MON PEAK	7274	-2386287678.5	4.1	-4802347354.0	11.0	3444884644.8	11.8
NOME	7279	-2658148435.5	13.4	-693822588.4	13.4	5737237096.0	27.9
NRAO 140	7204	882881649.8	8.3	-4924483127.1	10.0	3944131117.9	9.7
OCOTILLO	7270	-2335599431.3	62.8	-4832245040.1	67.1	3434393066.8	75.2
ONSALA60	7213	3370608040.9	12.1	711916463.1	6.0	5349830744.8	20.4
OVR 7853	7853	-2410419473.4	4.8	-4477801178.8	11.8	3838690977.0	12.4
OVRO 130	7207	-2409598993.4	2.0	-4478350312.6	8.6	3838603870.1	10.7
PBLOSSOM	7254	-2464069182.5	7.4	-4649426394.7	15.9	3593906354.1	15.0
PENTICTN	7283	-2058838604.9	27.9	-3621287093.5	39.1	4814421307.9	41.6
PINFLATS	7256	-2369634219.7	5.8	-4761325695.0	13.4	3511116806.9	13.3
PLATTVIL	7258	-1240706377.0	3.2	-4720455143.0	10.8	4094482255.2	10.3
PRESIDIO	7252	-2707703104.7	7.3	-4257610360.2	14.2	3888374839.9	15.2
PT REYES	7251	-2732331325.8	8.4	-4217635644.4	15.6	3914491706.9	16.3
PVERDES	7268	-2525451076.5	11.5	-4670036469.9	22.6	3522887445.7	19.1
QUINCY	7221	-2517229108.0	7.0	-4198595975.5	14.8	4076531928.0	15.5
RICHMOND	7219	961259699.9	4.0	-5674090916.2	5.7	2740534245.5	4.9
ROBLED32	1561	4849247128.8	69.4	-360279237.2	19.4	4114884534.3	59.7
SANPAULA	7255	-2554474880.7	38.0	-4608628052.5	67.5	3582138885.0	59.2

SITE	MON	X (mm)	ERR (mm)	Y (mm)	ERR (mm)	Z (mm)	ERR (mm)
SESHAN25	7227	-2831684328.6	80.4	4675732714.8	77.7	3275327654.4	90.9
SHANGHAI	7226	-2847695676.1	155.6	4659871617.6	136.7	3283958814.5	124.9
SNDPOINT	7280	-3425459938.9	28.5	-1214669820.1	19.9	5223858764.0	40.2
SOURDOGH	7281	-2419991547.5	8.8	-1664229463.2	11.4	5643538813.7	17.8
VERNAL	7290	-1631471517.8	10.2	-4589129664.4	21.0	4106760497.7	18.0
VNDNBERG	7223	-2678093003.9	2.5	-4525451591.2	9.7	3597410809.5	11.6
WESTFORD	7209	1492208422.6	-	-4458131349.5	-	4296015901.3	-
WETTZELL	7224	4075541885.0	13.1	931734183.1	6.8	4801629334.5	20.5
WHTHORSE	7284	-2215211662.2	24.7	-2209262315.9	18.8	5540293070.2	31.6
YAKATAGA	7277	-2529742288.3	9.0	-1942092018.4	11.9	5505028522.1	19.5
YELLOWKN	7285	-1224122598.8	16.9	-2689531362.7	25.2	5633555798.9	30.5
YUMA	7894	-2196776202.2	4.0	-4887337834.0	11.0	3448425893.3	11.6

6.0 BASELINE STATISTICS SUMMARIES

Table 6.1 includes the statistics of the mean length of each baseline. The number of observations on each baseline is indicated in the second column. The span in decimal years extends from the earliest to the most recent observation included in this report. The mean value is the weighted mean, in mm, of all of the observations. The formal error of the mean is a one sigma standard statistical error scaled according to the reduced chi-square. The weighted rms and the reduced chi square of the fit to the mean are given in the last two columns.

Table 6.2 includes statistics of the rate of change (slope), in mm/yr, of the baseline length for those baselines in Table 6.1 for which there were at least five observations spanning at least two years from the earliest to the most recent session. The formal errors are one sigma standard statistical errors scaled according to the reduced chi-square. The weighted rms and reduced chi-square of the fit to the line are given in columns four and five. The epoch value is the estimated baseline length, in mm, for the epoch January 1, 1985. The correlation given is the correlation of the error of the slope to the error of the epoch.

Tables 6.3 and 6.4 contain the statistics of the transverse and vertical baseline components. See the text for the definitions and interpretation of the transverse and vertical components. Neither table explicitly states the adjustments to the transverse and vertical as these values are arbitrary. The other columns are calculated and weighted as in Tables 6.1 and 6.2 with the following omissions. No epoch value or correlation was determined for the transverse and vertical adjustments and no slopes were determined for the vertical components.

TABLE 6.1
LENGTH STATISTICAL SUMMARY
MEAN

Baseline	num obs	span yr to yr	value (mm)	error (mm)	wrms (mm)	chi sqr
ALGOPARK-GILCREEK:	4	84.7-85.8	4475699328.4	7.6	13.2	4.27
ALGOPARK-HRAS 085:	5	84.7-85.8	2787141048.2	2.1	4.2	.45
ALGOPARK-MOJAVE12:	1	85.7-85.7	3407219005.1	7.4	0.0	0.00
ALGOPARK-PENTICTN:	3	84.7-85.8	3074234584.7	25.3	35.7	4.82
ALGOPARK-WESTFORD:	2	84.7-85.7	642611327.1	1.0	1.0	.10
ALGOPARK-YELLOWKN:	2	84.7-85.8	2912295999.8	16.6	16.6	5.71
BLKBUTTE-HATCREEK:	3	87.2-87.9	942475296.3	8.4	11.9	2.96
BLKBUTTE-HRAS 085:	3	83.9-86.9	1158018134.4	6.5	9.2	5.45
BLKBUTTE-MOJAVE12:	10	83.9-87.9	213868850.2	2.4	7.1	2.42
BLKBUTTE-MON PEAK:	4	83.9-86.9	107821845.4	4.7	8.2	2.92
BLKBUTTE-OCOTILLO:	2	84.3-85.1	97160216.2	10.1	10.1	1.42
BLKBUTTE-OVRO 130:	3	86.5-87.9	459067515.3	6.6	9.3	8.18
BLKBUTTE-PRESIDIO:	2	87.5-87.9	762366282.6	6.4	6.4	1.24
BLKBUTTE-PTEREYES:	1	87.2-87.2	815918030.2	8.1	0.0	0.00
BLKBUTTE-VNDNBERG:	10	83.9-87.9	462367673.6	6.0	17.9	13.07
CHLBOLTN-HAYSTACK:	7	80.9-80.9	5072314434.8	8.2	20.0	3.36
CHLBOLTN-HRAS 085:	7	80.9-80.9	7663737303.7	19.9	48.8	3.00
CHLBOLTN-ONSALA60:	7	80.9-80.9	1109864316.6	1.3	3.2	.29
CHLBOLTN-OVRO 130:	7	80.9-80.9	7846991203.4	16.6	40.7	2.97
DEADMANL-MOJAVE12:	4	84.2-88.0	131806789.1	6.7	11.6	3.44
DEADMANL-SANPAULA:	4	84.2-88.0	250758812.3	19.0	32.9	26.88
DEADMANL-VNDNBERG:	4	84.2-88.0	400134205.9	19.9	34.5	23.85
DSS15 -GOLDVENU:	1	87.9-87.9	21069151.6	2.1	0.0	0.00
DSS15 -MOJ 7288:	1	87.9-87.9	10063343.2	2.4	0.0	0.00
DSS15 -MOJAVE12:	1	87.9-87.9	10011685.2	2.0	0.0	0.00
DSS15 -OVR 7853:	1	87.9-87.9	237345165.7	2.0	0.0	0.00
DSS15 -OVRO 130:	1	87.9-87.9	236711197.0	1.8	0.0	0.00
EFLSBERG-HAYSTACK:	8	80.0-83.4	5591903538.6	14.4	38.1	4.25
EFLSBERG-HRAS 085:	6	80.7-83.4	8084184801.4	24.1	54.0	2.96
EFLSBERG-NRAO 140:	1	80.0-80.0	6334648427.2	36.7	0.0	0.00
EFLSBERG-ONSALA60:	6	80.7-83.4	832210502.0	2.5	5.7	1.38
EFLSBERG-OVRO 130:	6	80.0-80.8	8203742446.8	14.2	31.7	2.11
EFLSBERG-ROBLED32:	1	83.4-83.4	1414092457.2	11.9	0.0	0.00
EFLSBERG-WESTFORD:	1	83.4-83.4	5592851126.3	23.3	0.0	0.00
ELY -HATCREEK:	3	85.4-87.4	590025830.9	6.4	9.1	5.81
ELY -HRAS 085:	4	84.4-87.4	1378547084.2	3.3	5.8	1.07
ELY -MOJAVE12:	4	84.4-87.4	475517255.8	6.6	11.5	6.30
ELY -OVRO 130:	1	86.3-86.3	378140555.1	3.8	0.0	0.00
ELY -PLATTVIL:	3	84.4-86.3	871865377.0	6.8	9.6	1.90
ELY -VNDNBERG:	1	87.4-87.4	734889066.4	8.6	0.0	0.00
ELY -YUMA :	1	87.4-87.4	707152525.1	8.1	0.0	0.00
FLAGSTAF-HATCREEK:	4	84.4-87.4	1062209376.1	4.1	7.1	1.73

Baseline	num obs	span yr to yr	value (mm)	error (mm)	wrms (mm)	chi sqr
FLAGSTAF-HRAS 085:	4	84.4-87.4	879283098.7	.6	1.1	.06
FLAGSTAF-MOJAVE12:	4	84.4-87.4	478050182.2	2.5	4.3	1.66
FLAGSTAF-PLATTVIL:	3	84.4-86.3	820904438.8	3.4	4.9	.78
FLAGSTAF-VERNAL :	1	87.4-87.4	595755607.4	6.1	0.0	0.00
FORT ORD-HATCREEK:	6	84.2-87.9	461111259.0	20.2	45.2	56.90
FORT ORD-HRAS 085:	4	85.3-87.9	1774675666.6	20.5	35.4	23.71
FORT ORD-JPL MV1 :	1	87.9-87.9	426048766.8	5.2	0.0	0.00
FORT ORD-MOJAVE12:	7	83.7-87.9	464719609.6	17.1	41.9	88.43
FORT ORD-MON PEAK:	1	87.2-87.2	644206243.2	6.0	0.0	0.00
FORT ORD-OVRO 130:	5	83.7-87.9	317067309.6	11.1	22.2	26.10
FORT ORD-PRESIDIO:	3	83.7-85.9	139787413.9	8.4	11.9	2.86
FORT ORD-PTEREYES:	1	87.5-87.5	189551465.6	7.4	0.0	0.00
FORT ORD-VNDNBERG:	7	83.7-87.9	256852435.7	2.3	5.7	1.06
GILCREEK-HATCREEK:	21	85.4-87.9	3126752885.1	2.9	13.1	3.99
GILCREEK-HAYSTACK:	25	84.7-87.9	5039482189.1	1.9	9.3	3.08
GILCREEK-HRAS 085:	23	84.7-88.0	4725812301.2	2.7	12.9	3.80
GILCREEK-KASHIMA :	49	84.7-88.0	5427104340.2	2.2	15.6	2.99
GILCREEK-KAUAI :	38	84.6-88.0	4728114630.2	7.0	42.8	32.47
GILCREEK-KODIAK :	6	84.6-87.6	848553601.3	1.7	3.7	.32
GILCREEK-KWAJAL26:	14	84.6-86.7	6719676567.3	10.1	36.4	3.69
GILCREEK-MOJAVE12:	53	84.6-87.9	3816209144.3	1.6	11.8	5.89
GILCREEK-NOME :	7	84.6-86.7	848263838.7	2.5	6.1	1.12
GILCREEK-ONSALA60:	5	85.6-87.9	6066488079.1	6.7	13.5	.87
GILCREEK-OVRO 130:	6	85.4-87.9	3584055697.6	9.8	21.9	11.91
GILCREEK-PENTICTN:	2	84.7-85.8	2374175663.6	1.3	1.3	.01
GILCREEK-PLATTVIL:	4	85.4-87.4	3810424325.1	5.5	9.6	1.12
GILCREEK-RICHMOND:	6	87.4-88.0	6117758508.7	10.1	22.5	1.17
GILCREEK-SESHAN25:	1	87.5-87.5	6635555749.4	47.2	0.0	0.00
GILCREEK-SHANGHAI:	1	86.5-86.5	6619027299.3	82.7	0.0	0.00
GILCREEK-SNDPOINT:	4	84.6-87.7	1284477808.3	8.3	14.3	1.91
GILCREEK-SOURDOGH:	10	84.7-87.7	276378189.8	1.9	5.6	2.21
GILCREEK-VNDNBERG:	35	84.6-87.9	3775849589.7	6.9	40.4	34.15
GILCREEK-WESTFORD:	23	84.7-87.9	5040099849.4	2.0	9.2	3.22
GILCREEK-WETTZELL:	8	84.7-87.9	6856771444.5	10.0	26.5	2.95
GILCREEK-WHTHORSE:	3	84.7-86.7	788869894.6	1.3	1.9	.14
GILCREEK-YAKATAGA:	7	84.7-87.7	603048967.4	12.3	30.1	38.90
GILCREEK-YELLOWKN:	2	84.7-85.8	1631193646.7	6.8	6.8	2.48
GOLDVENU-HRAS 085:	2	82.6-82.9	1302373946.6	.5	.5	.01
GOLDVENU-MOJ 7288:	1	87.9-87.9	12776768.3	1.6	0.0	0.00
GOLDVENU-MOJAVE12:	4	83.7-87.9	12567224.6	1.9	3.2	3.80
GOLDVENU-ONSALA60:	2	82.5-82.6	8024928067.8	31.0	31.0	1.69
GOLDVENU-OVR 7853:	1	87.9-87.9	258212541.5	2.1	0.0	0.00
GOLDVENU-OVRO 130:	5	82.5-87.9	257587460.8	4.2	8.4	7.28
GOLDVENU-PRESIDIO:	1	83.7-83.7	580657651.9	14.4	0.0	0.00
GOLDVENU-PTEREYES:	1	83.7-83.7	633483769.6	11.9	0.0	0.00
GOLDVENU-QUINCY :	1	82.9-82.9	639556783.1	6.3	0.0	0.00
GOLDVENU-VNDNBERG:	1	83.7-83.7	357563259.4	8.6	0.0	0.00
GOLDVENU-WESTFORD:	2	82.5-82.6	3900445497.5	14.8	14.8	1.73
HARTRAO -HRAS 085:	1	87.2-87.2	11878469167.5	47.7	0.0	0.00

Baseline	num obs	span yr to yr	value (mm)	error (mm)	wrms (mm)	chi sqr
HARTRAO -MEDICINA:	1	88.0-88.0	7453222491.4	23.4	0.0	0.00
HARTRAO -ONSALA60:	4	86.1-87.2	8525165575.6	18.1	31.4	.71
HARTRAO -RICHMOND:	13	86.1-88.1	10814591235.9	20.8	72.1	2.12
HARTRAO -WESTFORD:	14	86.1-88.1	10658658402.9	20.1	72.3	2.37
HARTRAO -WETTZELL:	9	86.1-88.1	7832322543.4	6.9	19.6	.64
HATCREEK-HAYSTACK:	8	83.5-87.4	4032976704.1	4.0	10.7	1.64
HATCREEK-HRAS 085:	35	83.5-87.9	1933473640.2	1.5	8.5	1.74
HATCREEK-JPL MV1 :	2	83.6-87.9	789070005.2	42.5	42.5	81.42
HATCREEK-KASHIMA :	11	84.2-87.9	7557328201.4	5.7	18.0	1.96
HATCREEK-KAUAI :	10	85.5-87.9	4061718576.3	1.6	4.7	.45
HATCREEK-KODIAK :	2	87.6-87.6	2870190262.4	7.1	7.1	.81
HATCREEK-MAMMOTHL:	1	83.6-83.6	414535903.0	11.8	0.0	0.00
HATCREEK-MOJAVE12:	55	83.6-87.9	729148665.7	.9	6.5	2.13
HATCREEK-MON PEAK:	12	83.6-87.3	986815261.8	9.9	32.8	24.26
HATCREEK-OVRO 130:	26	83.5-87.9	484321526.5	1.8	9.1	3.88
HATCREEK-PLATTVIL:	14	83.5-87.4	1416314054.1	3.2	11.6	3.31
HATCREEK-PRESIDIO:	7	84.2-87.9	344991860.9	4.3	10.5	3.34
HATCREEK-PTEREYES:	5	84.2-87.9	326628771.1	10.7	21.3	11.09
HATCREEK-QUINCY :	4	83.6-86.9	103712244.0	1.9	3.3	.41
HATCREEK-SNDPOINT:	1	87.7-87.7	3229865017.2	410.7	0.0	0.00
HATCREEK-VERNAL :	2	86.3-87.4	1007489441.2	11.5	11.5	10.48
HATCREEK-VNDNBERG:	33	84.2-87.9	698706443.3	6.3	35.9	43.80
HATCREEK-WESTFORD:	7	83.5-87.4	4032819040.9	3.5	8.6	1.10
HATCREEK-YAKATAGA:	3	87.7-87.7	2569202473.0	4.5	6.3	.64
HATCREEK-YUMA :	8	85.3-87.9	1086071211.0	4.7	12.3	3.61
HAYSTACK-HRAS 085:	480	80.4-88.1	3135640978.2	.8	16.8	2.21
HAYSTACK-KASHIMA :	8	84.7-87.9	9501779904.2	22.8	60.4	7.48
HAYSTACK-MARPOINT:	6	82.5-83.7	677293405.8	2.6	5.8	.79
HAYSTACK-MOJAVE12:	43	83.6-87.9	3904144232.8	1.3	8.5	2.39
HAYSTACK-NRAO 140:	9	79.7-83.0	845129843.0	1.9	5.2	2.05
HAYSTACK-ONSALA60:	139	80.7-88.0	5599714510.7	3.2	37.5	10.76
HAYSTACK-OVRO 130:	54	79.7-87.9	3928881618.4	2.0	14.6	2.82
HAYSTACK-PLATTVIL:	6	83.5-87.4	2753205376.7	6.2	13.8	3.27
HAYSTACK-ROBLED32:	2	83.4-83.4	5299699276.5	2.3	2.3	.01
HAYSTACK-WESTFORD:	9	81.5-86.8	1239394.7	1.3	3.7	1.53
HAYSTACK-WETTZELL:	331	84.0-88.1	5997390703.0	1.1	20.1	1.65
HRAS 085-JPL MV1 :	3	82.9-87.9	1391413654.7	44.4	62.7	79.03
HRAS 085-KASHIMA :	6	87.4-88.0	9027663336.7	26.2	58.5	2.81
HRAS 085-MAMMOTHL:	1	83.6-83.6	1580143782.8	13.7	0.0	0.00
HRAS 085-MARPOINT:	2	82.9-83.7	2570813377.3	2.4	2.4	.06
HRAS 085-MEDICINA:	3	87.3-88.0	8604525470.4	23.3	32.9	2.41
HRAS 085-MOJAVE12:	79	83.6-88.0	1313368158.6	.9	7.6	3.46
HRAS 085-MON PEAK:	25	82.9-88.0	1205751596.4	9.5	46.8	62.80
HRAS 085-NRAO 140:	5	80.4-83.0	2354633992.0	5.8	11.6	3.10
HRAS 085-ONSALA60:	90	80.7-88.0	7940732185.5	4.5	42.4	2.29
HRAS 085-OVRO 130:	68	80.4-87.9	1508195397.0	2.3	19.1	10.83
HRAS 085-PENTICTN:	3	84.7-85.8	2443354508.3	13.3	18.8	1.91
HRAS 085-PINFLATS:	5	85.9-87.0	1223294542.5	4.6	9.3	3.37
HRAS 085-PLATTVIL:	14	83.5-87.4	1060499644.9	2.4	8.7	1.94

Baseline	num obs	span yr to yr	value (mm)	error (mm)	wrms (mm)	chi sqr
HRAS 085-PRESIDIO:	5	85.3-87.2	1870585819.4	10.7	21.4	6.86
HRAS 085-PTEREYES:	2	85.3-85.9	1921015686.9	7.1	7.1	.94
HRAS 085-QUINCY :	8	82.9-87.9	1849591420.5	7.8	20.7	5.94
HRAS 085-RICHMOND:	243	84.1-88.1	2362632807.6	.8	12.0	1.01
HRAS 085-ROBLED32:	1	83.4-83.4	7975530283.6	51.6	0.0	0.00
HRAS 085-VERNAL :	2	86.3-87.4	1187981349.6	7.8	7.8	4.01
HRAS 085-VNDNBERG:	28	83.9-87.9	1617713840.4	5.2	27.0	18.52
HRAS 085-WESTFORD:	447	81.5-88.1	3134927988.9	.8	17.0	2.29
HRAS 085-WETTZELL:	291	84.0-88.1	8417561440.3	1.8	30.3	.78
HRAS 085-YELLOWKN:	2	84.7-85.8	3572069856.9	.9	.9	.01
HRAS 085-YUMA :	14	83.9-88.0	1002949382.7	1.9	6.9	2.42
JPL MV1 -MAMMOTHL:	4	83.6-86.9	387649675.3	12.5	21.6	6.47
JPL MV1 -MOJAVE12:	18	83.6-88.0	171686435.2	2.8	11.7	5.93
JPL MV1 -MON PEAK:	1	82.9-82.9	218307740.7	9.0	0.0	0.00
JPL MV1 -OVRO 130:	17	82.9-87.9	335941403.5	5.5	22.1	9.92
JPL MV1 -PBLOSSOM:	7	83.2-88.0	41155683.5	3.0	7.4	1.08
JPL MV1 -PINFLATS:	6	83.9-87.0	171805089.4	2.2	4.9	1.14
JPL MV1 -QUINCY :	1	82.9-82.9	685704758.4	75.4	0.0	0.00
JPL MV1 -VNDNBERG:	15	83.7-88.0	228030975.7	3.2	12.0	6.65
KASHIMA -KAUAI :	36	84.7-88.0	5709360291.5	8.6	51.1	30.11
KASHIMA -KWAJAL26:	12	84.7-86.7	3936330648.8	16.6	55.0	20.05
KASHIMA -MOJAVE12:	30	84.1-87.9	8091824058.7	4.4	23.8	3.05
KASHIMA -ONSALA60:	5	85.6-87.9	7969642980.7	22.2	44.3	3.80
KASHIMA -RICHMOND:	6	87.4-88.0	10279840826.2	40.7	91.0	4.32
KASHIMA -SESHAN25:	1	87.5-87.5	1875920301.3	42.3	0.0	0.00
KASHIMA -SHANGHAI:	1	86.5-86.5	1852075324.8	40.7	0.0	0.00
KASHIMA -VNDNBERG:	17	85.5-87.9	7913888125.1	7.5	30.1	6.51
KASHIMA -WESTFORD:	6	85.6-87.9	9502316478.1	24.9	55.7	6.65
KASHIMA -WETTZELL:	8	84.7-87.9	8475826910.0	22.8	60.2	6.65
KAUAI -KWAJAL26:	15	84.6-86.7	3725196283.1	4.2	15.8	1.71
KAUAI -MOJAVE12:	24	84.6-87.9	4303581236.7	4.0	19.1	7.34
KAUAI -SESHAN25:	1	87.5-87.5	7310293984.3	52.1	0.0	0.00
KAUAI -SHANGHAI:	1	86.5-86.5	7290812812.6	75.8	0.0	0.00
KAUAI -VNDNBERG:	20	84.6-87.9	3972522423.3	3.1	13.4	3.67
KODIAK -MOJAVE12:	2	87.6-87.6	3574416145.1	2.8	2.8	.13
KODIAK -NOME :	4	84.6-86.6	1024053275.5	6.1	10.6	1.14
KODIAK -VNDNBERG:	4	84.6-86.6	3459022098.0	16.7	29.0	3.40
KWAJAL26-MOJAVE12:	15	84.6-86.7	7576938550.8	7.0	26.2	1.54
KWAJAL26-VNDNBERG:	11	84.6-86.7	7298104517.0	10.1	31.8	2.66
MAMMOTHL-MOJAVE12:	4	83.6-86.9	315785217.3	5.2	9.1	2.48
MAMMOTHL-OVRO 130:	4	83.6-86.9	74255493.9	4.2	7.3	2.66
MAMMOTHL-VNDNBERG:	2	84.9-86.9	373995443.4	8.2	8.2	4.24
MARPOINT-ONSALA60:	4	82.5-83.7	6198441019.4	3.5	6.1	.09
MARPOINT-OVRO 130:	3	82.5-82.9	3540824469.3	5.0	7.1	.36
MARPOINT-WESTFORD:	4	82.5-83.7	676178914.3	4.4	7.6	1.24
MEDICINA-ONSALA60:	3	87.4-88.0	1429470393.7	3.7	5.3	3.02
MEDICINA-RICHMOND:	4	87.3-88.0	7658214840.5	21.3	36.9	1.37
MEDICINA-WESTFORD:	5	87.3-88.0	6144872332.7	3.6	7.2	.47
MEDICINA-WETTZELL:	4	87.3-88.0	522461128.5	1.8	3.1	1.47

Baseline	num obs	span yr to yr	value (mm)	error (mm)	wrms (mm)	chi sqr
MOJ 7288-MOJAVE12:	1	87.9-87.9	358196.6	1.3	0.0	0.00
MOJ 7288-OVR 7853:	1	87.9-87.9	245751410.8	2.2	0.0	0.00
MOJ 7288-OVRO 130:	1	87.9-87.9	245135038.6	2.0	0.0	0.00
MOJAVE12-MON PEAK:	24	83.6-88.0	274055809.7	6.2	29.6	40.16
MOJAVE12-OCOTILLO:	3	84.3-85.3	299368631.7	6.4	9.0	1.81
MOJAVE12-ONSALA60:	14	83.9-87.9	8021117463.2	4.5	16.1	1.75
MOJAVE12-OVR 7853:	1	87.9-87.9	245893865.0	1.8	0.0	0.00
MOJAVE12-OVRO 130:	62	83.6-87.9	245276451.3	.9	6.7	3.65
MOJAVE12-PBLOSSOM:	8	83.7-88.0	131184784.2	2.3	6.2	2.22
MOJAVE12-PINFLATS:	17	83.9-88.0	195109718.3	3.8	15.1	9.36
MOJAVE12-PLATTVIL:	13	84.4-87.4	1196316946.1	1.6	5.6	1.01
MOJAVE12-PRESIDIO:	10	83.7-87.9	568654932.5	7.4	22.3	14.73
MOJAVE12-PTEREYES:	7	83.7-87.9	621424781.5	13.0	31.7	27.66
MOJAVE12-PVERDES :	4	83.9-88.0	224483713.5	4.0	6.9	1.96
MOJAVE12-QUINCY :	7	83.6-87.9	627137767.1	4.7	11.6	4.53
MOJAVE12-RICHMOND:	2	84.1-85.5	3594692969.4	8.1	8.1	.43
MOJAVE12-SANPAULA:	5	83.8-88.0	219618271.2	12.8	25.5	23.07
MOJAVE12-SNDPOINT:	1	87.7-87.7	3916865792.6	498.5	0.0	0.00
MOJAVE12-SOURDOGH:	2	87.7-87.7	3577769346.4	17.6	17.6	4.45
MOJAVE12-VERNAL :	2	86.3-87.4	848884612.4	8.8	8.8	7.77
MOJAVE12-VNDNBERG:	89	83.7-88.0	351282498.3	2.1	19.5	26.82
MOJAVE12-WESTFORD:	39	83.6-87.9	3903767729.6	1.4	8.5	2.52
MOJAVE12-WETTZELL:	17	84.7-87.9	8588976377.2	6.5	25.8	3.48
MOJAVE12-YAKATAGA:	2	87.7-87.7	3273878581.0	.1	.1	.00
MOJAVE12-YUMA :	17	83.9-88.0	362912393.8	2.0	8.2	4.00
MON PEAK-OVRO 130:	16	82.9-87.9	510423744.3	10.8	41.7	63.65
MON PEAK-QUINCY :	7	83.6-87.9	883538206.4	17.9	43.8	31.89
MON PEAK-VNDNBERG:	18	83.9-87.9	430216034.6	2.7	11.1	6.40
MON PEAK-YUMA :	8	83.9-88.0	207727000.7	10.2	27.0	57.84
NOME -SNDPOINT:	3	84.6-86.7	1060002862.3	3.3	4.7	.25
NOME -VNDNBERG:	7	84.6-86.7	4388694090.4	19.6	48.0	6.01
NRAO 140-ONSALA60:	4	82.0-83.0	6319317505.7	17.0	29.4	2.44
NRAO 140-OVRO 130:	7	79.7-83.0	3324244176.1	5.1	12.4	3.34
NRAO 140-WESTFORD:	4	82.0-83.0	844148079.0	2.7	4.7	1.41
OCOTILLO-OVRO 130:	1	85.3-85.3	542313240.4	7.9	0.0	0.00
OCOTILLO-PVERDES :	1	85.3-85.3	264927261.1	6.2	0.0	0.00
OCOTILLO-VNDNBERG:	3	84.3-85.3	487851095.7	7.0	10.0	1.69
ONSALA60-OVRO 130:	34	80.7-87.9	7914130947.3	7.8	45.0	5.57
ONSALA60-RICHMOND:	32	84.1-88.0	7307152499.1	4.7	26.1	.80
ONSALA60-ROBLED32:	1	83.4-83.4	2204783304.4	16.8	0.0	0.00
ONSALA60-WESTFORD:	100	81.9-88.0	5600741468.1	2.0	19.6	3.03
ONSALA60-WETTZELL:	73	84.0-88.0	919660993.5	.6	4.7	1.54
OVR 7853-OVRO 130:	1	87.9-87.9	991123.4	1.1	0.0	0.00
OVRO 130-PBLOSSOM:	7	83.2-87.9	303497802.4	5.8	14.1	5.04
OVRO 130-PINFLATS:	7	83.9-86.9	434649339.9	6.1	15.0	6.24
OVRO 130-PLATTVIL:	7	83.5-87.4	1220818755.8	4.3	10.7	3.97
OVRO 130-PRESIDIO:	8	83.7-87.9	374258347.6	8.8	23.3	17.53
OVRO 130-PTEREYES:	5	83.7-87.9	421766779.7	15.6	31.1	29.24
OVRO 130-PVERDES :	2	83.9-85.3	387094561.8	21.0	21.0	10.20

Baseline	num obs	span yr to yr	value (mm)	error (mm)	wrms (mm)	chi sqr
OVRO 130-QUINCY :	9	82.9-87.9	382696344.4	4.6	13.1	5.62
OVRO 130-SANPAULA:	1	83.8-83.8	322080173.1	11.1	0.0	0.00
OVRO 130-VNDNBERG:	40	83.7-87.9	363980314.3	2.1	13.0	6.55
OVRO 130-WESTFORD:	25	81.5-87.9	3928579346.4	3.1	15.0	3.56
OVRO 130-WETTZELL:	7	85.3-87.9	8500204956.3	9.7	23.7	3.89
OVRO 130-YUMA :	7	83.9-87.9	603989379.8	2.6	6.4	1.88
PBLOSSOM-VNDNBERG:	8	83.7-88.0	247362518.4	7.7	20.3	20.82
PENTICTN-YELLOWKN:	2	84.7-85.8	1495292886.4	10.8	10.8	1.29
PINFLATS-PVERDES :	2	87.3-88.0	180972820.4	3.1	3.1	.99
PINFLATS-VNDNBERG:	16	83.9-88.0	397781408.5	4.3	16.8	10.95
PINFLATS-YUMA :	6	83.9-87.0	222910501.3	8.9	20.0	19.03
PLATTVIL-VERNAL :	1	86.3-86.3	412425199.4	4.8	0.0	0.00
PLATTVIL-WESTFORD:	5	83.5-87.4	2752862671.7	5.7	11.4	2.66
PRESIDIO-PTEREYES:	4	83.7-85.9	53727235.4	2.3	4.0	.40
PRESIDIO-VNDNBERG:	10	83.7-87.9	396580090.3	6.1	18.4	6.94
PRESIDIO-YUMA :	1	87.2-87.2	922582249.0	6.0	0.0	0.00
PTEREYES-VNDNBERG:	7	83.7-87.9	445233368.7	4.5	11.0	3.10
PTEREYES-YUMA :	1	87.9-87.9	975980351.4	9.9	0.0	0.00
PVERDES -VNDNBERG:	4	83.9-88.0	223065175.0	7.5	13.0	7.85
QUINCY -VNDNBERG:	5	84.4-87.9	601887764.1	17.6	35.3	35.70
RICHMOND-WESTFORD:	253	84.1-88.1	2044501746.2	.6	9.2	.76
RICHMOND-WETTZELL:	242	84.1-88.1	7588398475.9	1.8	27.5	.80
ROBLED32-WESTFORD:	1	83.4-83.4	5300463035.1	38.8	0.0	0.00
SANPAULA-VNDNBERG:	5	83.8-88.0	149776483.8	7.3	14.5	7.26
SNDPOINT-VNDNBERG:	3	84.6-86.7	3763664026.6	30.7	43.5	6.86
SOURDOGH-VNDNBERG:	8	84.7-86.7	3527016989.0	12.9	34.1	5.56
SOURDOGH-WHTHORSE:	3	84.7-86.7	591316575.0	2.1	3.0	.33
SOURDOGH-YAKATAGA:	4	84.7-86.7	329299226.4	17.6	30.5	29.70
VNDNBERG-WHTHORSE:	3	84.7-86.7	3058395605.5	15.7	22.2	3.39
VNDNBERG-YAKATAGA:	4	84.7-86.7	3214772158.4	4.8	8.4	.37
VNDNBERG-YUMA :	15	83.9-87.9	620341806.9	6.4	24.0	29.00
WESTFORD-WETTZELL:	325	84.0-88.1	5998325342.8	1.1	19.4	1.48

TABLE 6.2
LENGTH STATISTICAL SUMMARY
RATE OF CHANGE

Baseline	rate mm/yr	error mm/yr	wrms (mm)	chi sqr	epoch value	epoch error	correlation
BLKBUTTE-MOJAVE12:	1.1	3.2	7.0	2.68	213868848.4	3.58	-.91
BLKBUTTE-VNDNBERG:	24.0	3.1	6.2	1.75	462367632.3	4.38	-.93
EFLSBERG-HAYSTACK:	27.1	7.6	21.5	1.59	5591903638.1	23.21	.95
EFLSBERG-HRAS 085:	39.5	8.1	20.5	.53	8084184939.0	41.10	.94
EFLSBERG-ONSALA60:	2.2	3.4	5.4	1.56	832210511.1	11.31	.98
FORT ORD-HATCREEK:	-38.5	1.9	4.6	.72	461111304.3	3.81	-.71
FORT ORD-MOJAVE12:	31.3	2.7	7.9	3.77	464719568.5	2.57	-.71
FORT ORD-OVRO 130:	15.1	.9	2.4	.39	317067301.4	2.32	-.35
FORT ORD-VNDNBERG:	.4	1.9	5.7	1.26	256852435.1	3.20	-.70
GILCREEK-HATCREEK:	-11.3	2.4	8.8	1.89	3126752905.5	3.41	-.90
GILCREEK-HAYSTACK:	2.0	2.9	9.2	3.15	5039482184.7	3.70	-.96
GILCREEK-HRAS 085:	-4.2	3.5	12.5	3.72	4725812310.4	4.22	-.94
GILCREEK-KASHIMA :	.0	2.7	15.6	3.06	5427104340.1	2.98	-.90
GILCREEK-KAUAI :	-48.0	1.8	9.2	1.54	4728114714.0	2.77	-.89
GILCREEK-KODIAK :	-1.7	2.3	3.5	.35	848553604.4	8.07	-.93
GILCREEK-KWAJAL26:	-36.5	8.1	22.1	1.48	6719676590.6	6.75	-.63
GILCREEK-MOJAVE12:	-9.5	1.4	8.6	3.23	3816209162.9	1.70	-.92
GILCREEK-NOME :	1.8	3.1	5.9	1.26	848263837.1	3.42	-.72
GILCREEK-ONSALA60:	8.7	7.1	11.0	.78	6066488062.4	17.19	-.91
GILCREEK-OVRO 130:	-23.8	3.7	6.4	1.28	3584055745.4	7.08	-.92
GILCREEK-SOURDOGH:	3.0	1.9	4.9	1.91	276378185.6	2.36	-.85
GILCREEK-VNDNBERG:	-46.0	2.3	11.0	2.62	3775849664.7	2.58	-.89
GILCREEK-WESTFORD:	4.7	3.4	8.8	3.09	5040099838.9	4.52	-.97
GILCREEK-WETTZELL:	14.5	7.0	20.2	2.00	6856771426.1	8.56	-.73
GILCREEK-YAKATAGA:	-34.1	2.9	5.6	1.62	603049037.4	5.06	-.92
GOLDVENU-OVRO 130:	1.8	1.6	6.9	6.70	257587459.5	1.61	-.28
HATCREEK-HAYSTACK:	4.7	2.2	8.1	1.09	4032976698.9	3.91	-.59
HATCREEK-HRAS 085:	4.1	1.1	7.2	1.29	1933473635.6	1.57	-.71
HATCREEK-KASHIMA :	-10.5	5.2	14.9	1.50	7557328219.0	8.20	-.87
HATCREEK-KAUAI :	3.3	1.5	3.7	.31	4061718570.3	5.37	-.90
HATCREEK-MOJAVE12:	-.6	.8	6.5	2.15	729148666.5	.93	-.76
HATCREEK-MON PEAK:	-29.3	3.3	11.1	3.07	986815294.9	2.94	-.73
HATCREEK-OVRO 130:	-1.6	1.3	8.8	3.81	484321527.4	1.00	-.39
HATCREEK-PLATTVIL:	7.4	2.3	8.6	1.95	1416314046.4	2.49	-.70
HATCREEK-PRESIDIO:	-9.8	3.8	6.8	1.69	344991875.1	4.79	-.87
HATCREEK-PTEREYES:	-21.0	3.6	6.0	1.19	326628806.9	6.46	-.87
HATCREEK-VNDNBERG:	-36.0	1.8	9.5	3.16	698706499.8	1.84	-.85
HATCREEK-WESTFORD:	3.3	2.3	7.2	.92	4032819036.5	4.57	-.68
HATCREEK-YUMA :	4.6	9.0	12.0	4.03	1086071202.6	8.48	-.96
HAYSTACK-HRAS 085:	-4.7	.3	14.0	1.53	3135640981.4	.54	-.31
HAYSTACK-KASHIMA :	-29.1	18.0	50.5	6.09	9501779942.4	12.71	-.75
HAYSTACK-MOJAVE12:	-2.8	1.2	8.0	2.17	3904144238.1	1.78	-.88

Baseline	rate mm/yr	error mm/yr	wrms (mm)	chi sqr	epoch value	epoch error	correlation
HAYSTACK-NRAO 140:	1.0	2.0	5.1	2.25	845129846.9	5.11	.97
HAYSTACK-ONSALA60:	15.0	.6	15.3	1.80	5599714502.0	1.00	-.24
HAYSTACK-OVRO 130:	3.0	.6	12.2	1.99	3928881622.2	1.32	.43
HAYSTACK-PLATTVIL:	6.1	5.3	12.0	3.08	2753205366.9	5.95	-.82
HAYSTACK-WESTFORD:	-.0	.6	3.7	1.75	1239394.7	1.18	.42
HAYSTACK-WETTZEILL:	14.0	.8	14.3	.83	5997390681.3	1.58	-.84
HRAS 085-MOJAVE12:	2.9	.7	6.8	2.82	1313368154.2	.77	-.80
HRAS 085-MON PEAK:	33.5	1.4	9.5	2.68	1205751562.2	1.50	-.60
HRAS 085-NRAO 140:	-8.1	5.8	9.1	2.52	2354633967.4	11.63	.96
HRAS 085-ONSALA60:	11.2	1.6	33.7	1.46	7940732181.2	3.02	-.17
HRAS 085-OVRO 130:	7.9	.4	7.0	1.45	1508195396.7	.71	-.01
HRAS 085-PLATTVIL:	-.2	2.5	8.7	2.10	1060499645.1	2.65	-.76
HRAS 085-QUINCY :	7.0	4.1	17.0	4.67	1849591415.2	3.53	-.41
HRAS 085-RICHMOND:	-2.6	.7	11.6	.96	2362632810.9	1.20	-.77
HRAS 085-VNDNBERG:	34.3	2.2	8.5	1.91	1617713787.5	2.77	-.90
HRAS 085-WESTFORD:	-5.6	.4	13.7	1.48	3134927993.9	.59	-.44
HRAS 085-WETTZEILL:	.9	1.7	30.3	.78	8417561439.0	3.38	-.80
HRAS 085-YUMA :	2.2	2.7	6.7	2.47	1002949378.8	3.18	-.92
JPL MV1 -MOJAVE12:	5.2	1.6	9.2	3.88	171686429.3	1.50	-.63
JPL MV1 -OVRO 130:	-11.1	2.4	14.2	4.36	335941411.9	1.96	-.44
JPL MV1 -PBLOSSOM:	-2.6	1.8	6.2	.92	41155685.6	3.27	-.46
JPL MV1 -PINFLATS:	4.6	2.2	3.4	.68	171805082.7	4.35	-.88
JPL MV1 -VNDNBERG:	10.3	1.9	6.6	2.17	228030959.2	2.39	-.85
KASHIMA -KAUAI :	-59.8	2.6	12.4	1.83	5709360397.2	3.71	-.91
KASHIMA -KWAJAL26:	-71.4	5.4	12.8	1.20	3936330703.3	5.29	-.71
KASHIMA -MOJAVE12:	-6.5	4.4	22.9	2.94	8091824067.8	4.45	-.82
KASHIMA -ONSALA60:	-39.2	18.4	27.9	2.01	7969643054.2	26.85	-.91
KASHIMA -VNDNBERG:	-27.6	6.4	20.2	3.12	7913888172.7	6.94	-.91
KASHIMA -WESTFORD:	-31.2	35.4	51.0	6.96	9502316536.3	26.85	-.93
KASHIMA -WETTZEILL:	-31.0	17.4	48.8	5.08	8475826950.7	13.45	-.75
KAUAI -KWAJAL26:	-5.3	5.3	15.2	1.71	3725196286.3	4.05	-.60
KAUAI -MOJAVE12:	16.9	1.7	8.2	1.44	4303581213.5	2.46	-.80
KAUAI -VNDNBERG:	-5.0	3.1	12.5	3.40	3972522431.0	3.07	-.85
KWAJAL26-MOJAVE12:	9.1	8.7	25.1	1.53	7576938545.3	7.03	-.60
KWAJAL26-VNDNBERG:	-20.7	13.1	28.1	2.31	7298104534.0	9.37	-.75
MOJAVE12-MON PEAK:	-23.9	1.6	9.1	3.99	274055834.5	1.30	-.66
MOJAVE12-ONSALA60:	-1.9	5.2	16.0	1.88	8021117466.4	7.21	-.88
MOJAVE12-OVRO 130:	1.8	.6	6.2	3.22	245276449.4	.57	-.61
MOJAVE12-PBLOSSOM:	2.2	1.5	5.3	1.91	131184781.5	2.07	-.65
MOJAVE12-PINFLATS:	-13.1	1.4	5.8	1.45	195109737.1	2.07	-.80
MOJAVE12-PLATTVIL:	-.9	1.7	5.5	1.07	1196316947.1	2.44	-.76
MOJAVE12-PRESIDIO:	19.7	3.0	8.9	2.65	568654907.3	3.07	-.78
MOJAVE12-PTEREYES:	24.7	2.6	7.3	1.74	621424744.6	3.84	-.77
MOJAVE12-QUINCY :	4.4	3.5	10.2	4.16	627137762.0	3.00	-.67
MOJAVE12-SANPAULA:	14.7	4.4	11.7	6.51	219618250.9	3.56	-.67
MOJAVE12-VNDNBERG:	18.7	.8	7.1	3.55	351282469.6	.75	-.85
MOJAVE12-WESTFORD:	-3.6	1.4	7.8	2.20	3903767736.8	2.09	-.91
MOJAVE12-WETTZEILL:	11.5	6.3	23.4	3.04	8588976359.4	6.61	-.85
MOJAVE12-YUMA :	6.9	2.1	6.3	2.50	362912381.9	2.53	-.91

Baseline	rate mm/yr	error mm/yr	wrms (mm)	chi sqr	epoch value	epoch error	correlation
MON PEAK-OVRO 130:	-26.0	1.6	9.1	3.25	510423754.9	1.39	-.25
MON PEAK-QUINCY :	-29.6	5.6	17.0	5.74	883538237.5	4.00	-.61
MON PEAK-VNDNBERG:	9.0	2.8	8.6	4.10	430216021.3	2.28	-.89
MON PEAK-YUMA :	27.6	2.2	5.1	2.43	207726958.1	2.54	-.85
NOME -VNDNBERG:	-64.0	11.8	18.2	1.04	4388694164.5	15.56	-.86
NRAO 140-OVRO 130:	-1.7	4.7	12.2	3.91	3324244170.4	8.71	.95
ONSALA60-OVRO 130:	12.0	2.0	30.7	2.67	7914130959.0	3.52	.33
ONSALA60-RICHMOND:	-.9	4.7	26.1	.83	7307152500.3	9.04	-.82
ONSALA60-WESTFORD:	10.7	1.0	13.1	1.38	5600741451.8	1.70	-.75
ONSALA60-WETTZELL:	-1.8	.5	4.4	1.33	919660996.4	.84	-.85
OVRO 130-PBLOSSOM:	-8.4	2.5	7.9	1.88	303497809.2	2.97	-.50
OVRO 130-PINFLATS:	-13.4	3.3	7.3	1.78	434649355.5	3.82	-.77
OVRO 130-PLATTVIL:	5.9	3.7	8.7	3.15	1220818747.5	3.64	-.80
OVRO 130-PRESIDIO:	18.8	4.7	12.1	5.51	374258332.9	2.62	-.60
OVRO 130-PTEREYES:	21.5	4.4	10.5	4.43	421766767.9	3.10	-.38
OVRO 130-QUINCY :	-.2	3.0	13.1	6.42	382696344.5	2.15	-.41
OVRO 130-VNDNBERG:	-8.0	1.4	9.6	3.61	363980324.1	1.22	-.74
OVRO 130-WESTFORD:	3.2	1.2	13.2	2.88	3928579345.1	1.64	-.17
OVRO 130-WETTZELL:	2.3	10.7	23.6	4.63	8500204952.8	8.85	-.83
OVRO 130-YUMA :	4.5	3.2	5.4	1.61	603989373.0	4.22	-.89
PBLOSSOM-VNDNBERG:	14.6	1.8	5.8	2.02	247362499.0	2.38	-.71
PINFLATS-VNDNBERG:	17.6	1.5	5.1	1.09	397781380.2	2.66	-.87
PINFLATS-YUMA :	28.0	8.6	10.4	6.48	222910456.0	5.81	-.94
PLATTVIL-WESTFORD:	3.3	6.3	11.0	3.25	2752862666.0	7.06	-.87
PRESIDIO-VNDNBERG:	-13.6	3.2	10.2	2.42	396580108.0	3.57	-.76
PTEREYES-VNDNBERG:	-6.6	2.2	6.7	1.35	445233377.7	3.68	-.72
QUINCY -VNDNBERG:	-30.7	6.1	11.5	5.09	601887810.7	5.08	-.81
RICHMOND-WESTFORD:	1.1	.6	9.1	.75	2044501744.7	1.04	-.77
RICHMOND-WETTZELL:	7.3	1.7	26.5	.75	7588398466.5	3.20	-.79
SANPAULA-VNDNBERG:	.5	5.7	14.5	9.65	149776483.1	3.66	-.67
SOURDOGH-VNDNBERG:	-49.7	9.0	13.8	1.06	3527017049.5	11.92	-.89
VNDNBERG-YUMA :	36.7	3.9	8.6	3.98	620341745.3	3.48	-.94
WESTFORD-WETTZELL:	13.4	.8	14.1	.79	5998325321.5	1.67	-.85

TABLE 6.3
TRANSVERSE STATISTICAL SUMMARY

Baseline	num obs	span yr to yr	MEAN			RATE OF CHANGE			
			error mm	wrms mm	chi sqr	rate mm/yr	error mm/yr	wrms mm	chi sqr
ALGOPARK-GILCREEK:	4	84.7-85.8	11.3	19.6	2.13	-----	-----	-----	-----
ALGOPARK-HRAS 085:	5	84.7-85.8	2.6	5.2	.33	-----	-----	-----	-----
ALGOPARK-MOJAVE12:	1	85.7-85.7	13.3	0.0	0.00	-----	-----	-----	-----
ALGOPARK-PENTICTN:	3	84.7-85.8	1.4	2.0	.04	-----	-----	-----	-----
ALGOPARK-WESTFORD:	2	84.7-85.7	1.1	1.1	.09	-----	-----	-----	-----
ALGOPARK-YELLOWKN:	2	84.7-85.8	1.4	1.4	.04	-----	-----	-----	-----
BLKBUTTE-HATCREEK:	3	87.2-87.9	6.1	8.7	3.21	-----	-----	-----	-----
BLKBUTTE-HRAS 085:	3	83.9-86.9	5.4	7.6	1.81	-----	-----	-----	-----
BLKBUTTE-MOJAVE12:	10	83.9-87.9	1.8	5.4	2.23	5.3	.9	2.4	.49
BLKBUTTE-MON PEAK:	4	83.9-86.9	7.6	13.1	9.47	-----	-----	-----	-----
BLKBUTTE-OCOTILLO:	2	84.3-85.1	2.4	2.4	.18	-----	-----	-----	-----
BLKBUTTE-OVRO 130:	3	86.5-87.9	8.2	11.7	14.51	-----	-----	-----	-----
BLKBUTTE-PRESIDIO:	2	87.5-87.9	6.9	6.9	1.93	-----	-----	-----	-----
BLKBUTTE-PTEREYES:	1	87.2-87.2	6.2	0.0	0.00	-----	-----	-----	-----
BLKBUTTE-VNDNBERG:	10	83.9-87.9	7.8	23.4	15.13	26.9	2.2	5.3	.87
CHLBOLTN-HAYSTACK:	7	80.9-80.9	2.0	4.9	.24	-----	-----	-----	-----
CHLBOLTN-HRAS 085:	7	80.9-80.9	2.8	7.0	.27	-----	-----	-----	-----
CHLBOLTN-ONSALA60:	7	80.9-80.9	1.3	3.3	.32	-----	-----	-----	-----
CHLBOLTN-OVRO 130:	7	80.9-80.9	3.0	7.3	.33	-----	-----	-----	-----
DEADMANL-MOJAVE12:	4	84.2-88.0	2.8	4.8	1.06	-----	-----	-----	-----
DEADMANL-SANPAULA:	4	84.2-88.0	6.9	12.0	1.92	-----	-----	-----	-----
DEADMANL-VNDNBERG:	4	84.2-88.0	13.3	23.1	7.52	-----	-----	-----	-----
DSS15 -GOLDVENU:	1	87.9-87.9	1.7	0.0	0.00	-----	-----	-----	-----
DSS15 -MOJ 7288:	1	87.9-87.9	1.4	0.0	0.00	-----	-----	-----	-----
DSS15 -MOJAVE12:	1	87.9-87.9	1.2	0.0	0.00	-----	-----	-----	-----
DSS15 -OVR 7853:	1	87.9-87.9	2.1	0.0	0.00	-----	-----	-----	-----
DSS15 -OVRO 130:	1	87.9-87.9	1.9	0.0	0.00	-----	-----	-----	-----
EFLSBERG-HAYSTACK:	8	80.0-83.4	202.9	536.9	8.26	-244.2	123.8	418.2	5.84
EFLSBERG-HRAS 085:	6	80.7-83.4	319.0	713.4	8.44	-540.9	42.7	111.2	.26
EFLSBERG-NRAO 140:	1	80.0-80.0	319.8	0.0	0.00	-----	-----	-----	-----
EFLSBERG-ONSALA60:	6	80.7-83.4	35.3	78.8	5.19	-61.2	3.9	9.9	.10
EFLSBERG-OVRO 130:	6	80.0-80.8	403.8	902.9	5.99	-----	-----	-----	-----
EFLSBERG-ROBLED32:	1	83.4-83.4	44.1	0.0	0.00	-----	-----	-----	-----
EFLSBERG-WESTFORD:	1	83.4-83.4	128.5	0.0	0.00	-----	-----	-----	-----
ELY -HATCREEK:	3	85.4-87.4	6.7	9.5	3.97	-----	-----	-----	-----
ELY -HRAS 085:	4	84.4-87.4	4.9	8.5	2.19	-----	-----	-----	-----
ELY -MOJAVE12:	4	84.4-87.4	2.5	4.3	1.34	-----	-----	-----	-----
ELY -OVRO 130:	1	86.3-86.3	4.1	0.0	0.00	-----	-----	-----	-----
ELY -PLATTVIL:	3	84.4-86.3	4.5	6.4	.50	-----	-----	-----	-----
ELY -VNDNBERG:	1	87.4-87.4	7.6	0.0	0.00	-----	-----	-----	-----
ELY -YUMA :	1	87.4-87.4	5.5	0.0	0.00	-----	-----	-----	-----

Baseline	num obs	span yr to yr	error mm	wrms mm	chi sqr	rate mm/yr	error mm/yr	wrms mm	chi sqr
FLAGSTAF-HATCREEK:	4	84.4-87.4	2.7	4.7	.74	-----	-----	-----	-----
FLAGSTAF-HRAS 085:	4	84.4-87.4	6.7	11.6	5.58	-----	-----	-----	-----
FLAGSTAF-MOJAVE12:	4	84.4-87.4	2.4	4.2	.77	-----	-----	-----	-----
FLAGSTAF-PLATTVIL:	3	84.4-86.3	3.0	4.3	.61	-----	-----	-----	-----
FLAGSTAF-VERNAL :	1	87.4-87.4	4.4	0.0	0.00	-----	-----	-----	-----
FORT ORD-HATCREEK:	6	84.2-87.9	12.9	28.9	33.67	24.4	4.0	8.9	4.02
FORT ORD-HRAS 085:	4	85.3-87.9	9.9	17.1	3.84	-----	-----	-----	-----
FORT ORD-JPL MV1 :	1	87.9-87.9	5.7	0.0	0.00	-----	-----	-----	-----
FORT ORD-MOJAVE12:	7	83.7-87.9	10.9	26.8	21.70	18.4	3.1	9.6	3.34
FORT ORD-MON PEAK:	1	87.2-87.2	4.9	0.0	0.00	-----	-----	-----	-----
FORT ORD-OVRO 130:	5	83.7-87.9	26.0	52.1	66.78	28.3	6.1	18.2	10.85
FORT ORD-PRESIDIO:	3	83.7-85.9	6.5	9.3	2.72	-----	-----	-----	-----
FORT ORD-PTEREYES:	1	87.5-87.5	6.2	0.0	0.00	-----	-----	-----	-----
FORT ORD-VNDNBERG:	7	83.7-87.9	4.0	9.7	4.31	2.5	2.9	9.1	4.51
GILCREEK-HATCREEK:	21	85.4-87.9	4.1	18.2	3.18	-8.1	5.0	17.1	2.95
GILCREEK-HAYSTACK:	25	84.7-87.9	5.3	26.0	2.71	-6.8	4.9	25.0	2.61
GILCREEK-HRAS 085:	23	84.7-88.0	5.3	24.9	2.72	-17.7	4.2	18.3	1.55
GILCREEK-KASHIMA :	49	84.7-88.0	5.8	40.0	3.57	27.2	4.9	31.1	2.21
GILCREEK-KAUAI :	38	84.6-88.0	10.2	62.0	12.86	61.4	4.5	25.1	2.18
GILCREEK-KODIAK :	6	84.6-87.6	4.5	10.0	4.64	11.9	2.4	3.8	.82
GILCREEK-KWAJAL26:	14	84.6-86.7	17.2	62.2	4.98	71.4	11.1	29.4	1.21
GILCREEK-MOJAVE12:	53	84.6-87.9	2.9	20.6	2.69	-11.4	2.5	17.3	1.93
GILCREEK-NOME :	7	84.6-86.7	4.0	9.8	2.75	3.9	4.7	9.1	2.90
GILCREEK-ONSALA60:	5	85.6-87.9	18.0	35.9	3.21	-32.5	13.4	20.9	1.44
GILCREEK-OVRO 130:	6	85.4-87.9	11.4	25.4	5.18	-15.5	12.5	21.6	4.69
GILCREEK-PENTICTN:	2	84.7-85.8	1.8	1.8	.07	-----	-----	-----	-----
GILCREEK-PLATTVIL:	4	85.4-87.4	14.7	25.5	4.73	-----	-----	-----	-----
GILCREEK-RICHMOND:	6	87.4-88.0	6.7	14.9	.63	-----	-----	-----	-----
GILCREEK-SESHAN25:	1	87.5-87.5	47.2	0.0	0.00	-----	-----	-----	-----
GILCREEK-SHANGHAI:	1	86.5-86.5	57.9	0.0	0.00	-----	-----	-----	-----
GILCREEK-SNDPOINT:	4	84.6-87.7	6.8	11.8	2.35	-----	-----	-----	-----
GILCREEK-SOURDOGH:	10	84.7-87.7	1.3	3.9	1.94	.8	1.5	3.8	2.10
GILCREEK-VNDNBERG:	35	84.6-87.9	3.1	18.3	1.99	7.3	3.3	17.1	1.78
GILCREEK-WESTFORD:	23	84.7-87.9	5.4	25.3	2.53	-14.1	5.8	22.4	2.08
GILCREEK-WETTZELL:	8	84.7-87.9	15.7	41.5	3.41	-3.2	14.6	41.4	3.95
GILCREEK-WHTHORSE:	3	84.7-86.7	2.8	3.9	.82	-----	-----	-----	-----
GILCREEK-YAKATAGA:	7	84.7-87.7	1.4	3.3	.80	.2	1.6	3.3	.96
GILCREEK-YELLOWKN:	2	84.7-85.8	5.3	5.3	1.09	-----	-----	-----	-----
GOLDVENU-HRAS 085:	2	82.6-82.9	1.2	1.2	.01	-----	-----	-----	-----
GOLDVENU-MOJ 7288:	1	87.9-87.9	1.6	0.0	0.00	-----	-----	-----	-----
GOLDVENU-MOJAVE12:	4	83.7-87.9	.7	1.2	.44	-----	-----	-----	-----
GOLDVENU-ONSALA60:	2	82.5-82.6	118.8	118.8	.34	-----	-----	-----	-----
GOLDVENU-OVR 7853:	1	87.9-87.9	1.8	0.0	0.00	-----	-----	-----	-----
GOLDVENU-OVRO 130:	5	82.5-87.9	1.6	3.3	1.06	-.8	.7	2.7	.99
GOLDVENU-PRESIDIO:	1	83.7-83.7	15.4	0.0	0.00	-----	-----	-----	-----
GOLDVENU-PTEREYES:	1	83.7-83.7	14.6	0.0	0.00	-----	-----	-----	-----
GOLDVENU-QUINCY :	1	82.9-82.9	9.9	0.0	0.00	-----	-----	-----	-----
GOLDVENU-VNDNBERG:	1	83.7-83.7	11.1	0.0	0.00	-----	-----	-----	-----
GOLDVENU-WESTFORD:	2	82.5-82.6	54.8	54.8	.46	-----	-----	-----	-----

Baseline	num obs	span yr to yr	error mm	wrms mm	chi sqr	rate mm/yr	error mm/yr	wrms mm	chi sqr
HARTRAO -HRAS 085:	1	87.2-87.2	40.5	0.0	0.00	-----	-----	-----	-----
HARTRAO -MEDICINA:	1	88.0-88.0	107.2	0.0	0.00	-----	-----	-----	-----
HARTRAO -ONSALA60:	4	86.1-87.2	11.9	20.6	.51	-----	-----	-----	-----
HARTRAO -RICHMOND:	13	86.1-88.1	13.5	46.9	1.34	-----	-----	-----	-----
HARTRAO -WESTFORD:	14	86.1-88.1	9.9	35.5	.87	-----	-----	-----	-----
HARTRAO -WETTZELL:	9	86.1-88.1	13.1	37.0	1.94	-----	-----	-----	-----
HATCREEK-HAYSTACK:	8	83.5-87.4	6.0	16.0	1.09	-1.5	5.5	15.9	1.26
HATCREEK-HRAS 085:	35	83.5-87.9	2.8	16.5	4.18	-6.5	2.3	14.8	3.49
HATCREEK-JPL MV1 :	2	83.6-87.9	26.6	26.6	39.27	-----	-----	-----	-----
HATCREEK-KASHIMA :	11	84.2-87.9	13.2	41.6	2.88	15.9	12.3	38.2	2.70
HATCREEK-KAUAI :	10	85.5-87.9	17.7	53.0	16.85	64.1	6.5	14.7	1.46
HATCREEK-KODIAK :	2	87.6-87.6	1.8	1.8	.05	-----	-----	-----	-----
HATCREEK-MAMMOTHL:	1	83.6-83.6	8.6	0.0	0.00	-----	-----	-----	-----
HATCREEK-MOJAVE12:	55	83.6-87.9	1.3	9.5	4.77	-5.2	.9	7.4	2.88
HATCREEK-MON PEAK:	12	83.6-87.3	4.0	13.1	6.38	6.5	3.2	11.1	4.99
HATCREEK-OVRO 130:	26	83.5-87.9	1.8	9.2	4.43	-3.2	1.3	8.2	3.69
HATCREEK-PLATTVIL:	14	83.5-87.4	3.3	11.9	2.15	2.1	3.3	11.8	2.25
HATCREEK-PRESIDIO:	7	84.2-87.9	5.7	14.0	12.99	16.5	2.6	4.6	1.67
HATCREEK-PTEREYES:	5	84.2-87.9	12.1	24.2	26.42	24.4	3.4	5.7	1.93
HATCREEK-QUINCY :	4	83.6-86.9	1.7	3.0	.49	-----	-----	-----	-----
HATCREEK-SNDPOINT:	1	87.7-87.7	72.2	0.0	0.00	-----	-----	-----	-----
HATCREEK-VERNAL :	2	86.3-87.4	10.2	10.2	4.72	-----	-----	-----	-----
HATCREEK-VNDNBERG:	33	84.2-87.9	4.1	23.2	24.02	21.9	1.8	9.8	4.42
HATCREEK-WESTFORD:	7	83.5-87.4	6.9	16.9	1.23	-5.4	7.4	16.1	1.33
HATCREEK-YAKATAGA:	3	87.7-87.7	4.1	5.8	.43	-----	-----	-----	-----
HATCREEK-YUMA :	8	85.3-87.9	3.4	9.1	2.56	-5.1	5.5	8.5	2.61
HAYSTACK-HRAS 085:	480	80.4-88.1	1.1	23.3	4.86	-12.9	.5	14.2	1.82
HAYSTACK-KASHIMA :	8	84.7-87.9	29.0	76.7	5.59	43.1	21.4	59.2	3.89
HAYSTACK-MARPOINT:	6	82.5-83.7	1.1	2.4	.02	-----	-----	-----	-----
HAYSTACK-MOJAVE12:	43	83.6-87.9	2.6	16.8	1.64	-3.1	2.1	16.3	1.59
HAYSTACK-NRAO 140:	9	79.7-83.0	4.7	13.3	.90	16.3	5.4	8.8	.45
HAYSTACK-ONSALA60:	139	80.7-88.0	4.3	50.9	14.71	-20.6	1.3	30.7	5.40
HAYSTACK-OVRO 130:	54	79.7-87.9	10.0	72.6	15.93	-23.5	1.8	34.4	3.66
HAYSTACK-PLATTVIL:	6	83.5-87.4	7.0	15.7	1.99	-3.7	6.1	15.0	2.29
HAYSTACK-ROBLED32:	2	83.4-83.4	11.4	11.4	.02	-----	-----	-----	-----
HAYSTACK-WESTFORD:	9	81.5-86.8	1.0	2.8	1.50	-.2	.4	2.7	1.67
HAYSTACK-WETTZELL:	331	84.0-88.1	.8	14.6	2.01	-9.0	.6	11.2	1.18
HRAS 085-JPL MV1 :	3	82.9-87.9	10.6	14.9	3.50	-----	-----	-----	-----
HRAS 085-KASHIMA :	6	87.4-88.0	10.8	24.2	.70	-----	-----	-----	-----
HRAS 085-MAMMOTHL:	1	83.6-83.6	13.3	0.0	0.00	-----	-----	-----	-----
HRAS 085-MARPOINT:	2	82.9-83.7	5.8	5.8	.09	-----	-----	-----	-----
HRAS 085-MEDICINA:	3	87.3-88.0	9.4	13.2	3.41	-----	-----	-----	-----
HRAS 085-MOJAVE12:	79	83.6-88.0	1.0	8.6	2.04	.5	.9	8.6	2.06
HRAS 085-MON PEAK:	25	82.9-88.0	4.2	20.7	9.16	16.2	1.9	10.2	2.34
HRAS 085-NRAO 140:	5	80.4-83.0	2.4	4.7	.03	-6.7	2.6	2.6	.01
HRAS 085-ONSALA60:	90	80.7-88.0	10.0	94.4	38.89	-40.2	2.4	46.6	9.56
HRAS 085-OVRO 130:	68	80.4-87.9	2.7	21.9	6.27	-7.7	1.1	16.5	3.63
HRAS 085-PENTICTN:	3	84.7-85.8	10.2	14.5	3.01	-----	-----	-----	-----
HRAS 085-PINFLATS:	5	85.9-87.0	3.8	7.5	1.61	-----	-----	-----	-----

Baseline	num obs	span yr to yr	error mm	wrms mm	chi sqr	rate mm/yr	error mm/yr	wrms mm	chi sqr
HRAS 085-PLATTVIL:	14	83.5-87.4	3.0	10.7	3.91	-1.4	3.0	10.6	4.16
HRAS 085-PRESIDIO:	5	85.3-87.2	4.8	9.6	1.25	-----	-----	-----	-----
HRAS 085-PTEREYES:	2	85.3-85.9	7.6	7.6	1.05	-----	-----	-----	-----
HRAS 085-QUINCY :	8	82.9-87.9	7.6	20.0	6.10	-3.7	5.7	19.3	6.66
HRAS 085-RICHMOND:	243	84.1-88.1	.8	13.0	1.62	-7.6	.6	10.3	1.02
HRAS 085-ROBLED32:	1	83.4-83.4	145.2	0.0	0.00	-----	-----	-----	-----
HRAS 085-VERNAL :	2	86.3-87.4	5.6	5.6	2.09	-----	-----	-----	-----
HRAS 085-VNDNBERG:	28	83.9-87.9	4.9	25.5	11.47	26.4	3.1	13.2	3.20
HRAS 085-WESTFORD:	447	81.5-88.1	.8	16.5	2.58	-10.3	.3	9.3	.83
HRAS 085-WETTZELL:	291	84.0-88.1	1.5	26.0	4.73	-20.7	.8	14.1	1.40
HRAS 085-YELLOWKN:	2	84.7-85.8	3.6	3.6	.20	-----	-----	-----	-----
HRAS 085-YUMA :	14	83.9-88.0	2.6	9.4	3.03	-2.4	3.8	9.2	3.18
JPL MV1 -MAMMOTHL:	4	83.6-86.9	6.4	11.0	4.27	-----	-----	-----	-----
JPL MV1 -MOJAVE12:	18	83.6-88.0	7.2	29.6	43.04	23.0	1.4	7.0	2.57
JPL MV1 -MON PEAK:	1	82.9-82.9	8.9	0.0	0.00	-----	-----	-----	-----
JPL MV1 -OVRO 130:	17	82.9-87.9	6.1	24.5	26.51	17.2	1.6	8.4	3.29
JPL MV1 -PBLOSSOM:	7	83.2-88.0	5.5	13.6	4.58	8.1	2.2	7.1	1.51
JPL MV1 -PINFLATS:	6	83.9-87.0	2.6	5.8	1.18	6.7	1.6	2.6	.29
JPL MV1 -QUINCY :	1	82.9-82.9	40.4	0.0	0.00	-----	-----	-----	-----
JPL MV1 -VNDNBERG:	15	83.7-88.0	3.4	12.8	5.01	10.9	2.3	7.7	1.97
KASHIMA -KAUAI :	36	84.7-88.0	5.2	30.6	1.90	-3.3	6.0	30.5	1.94
KASHIMA -KWAJAL26:	12	84.7-86.7	7.4	24.7	1.57	9.8	10.1	23.6	1.58
KASHIMA -MOJAVE12:	30	84.1-87.9	9.1	49.0	2.89	17.6	8.1	45.3	2.55
KASHIMA -ONSALA60:	5	85.6-87.9	23.4	46.9	2.72	-16.3	28.5	44.5	3.27
KASHIMA -RICHMOND:	6	87.4-88.0	9.0	20.2	.39	-----	-----	-----	-----
KASHIMA -SESHAN25:	1	87.5-87.5	21.6	0.0	0.00	-----	-----	-----	-----
KASHIMA -SHANGHAI:	1	86.5-86.5	29.6	0.0	0.00	-----	-----	-----	-----
KASHIMA -VNDNBERG:	17	85.5-87.9	9.4	37.6	1.94	-4.3	11.8	37.5	2.05
KASHIMA -WESTFORD:	6	85.6-87.9	23.1	51.7	2.70	6.1	32.1	51.5	3.35
KASHIMA -WETTZELL:	8	84.7-87.9	24.9	65.9	4.35	29.6	20.8	57.0	3.80
KAUAI -KWAJAL26:	15	84.6-86.7	6.0	22.6	1.32	14.9	7.1	19.6	1.07
KAUAI -MOJAVE12:	24	84.6-87.9	12.3	58.8	13.85	57.6	4.0	18.3	1.41
KAUAI -SESHAN25:	1	87.5-87.5	40.8	0.0	0.00	-----	-----	-----	-----
KAUAI -SHANGHAI:	1	86.5-86.5	37.7	0.0	0.00	-----	-----	-----	-----
KAUAI -VNDNBERG:	20	84.6-87.9	7.2	31.4	4.62	26.0	5.3	20.7	2.11
KODIAK -MOJAVE12:	2	87.6-87.6	1.3	1.3	.02	-----	-----	-----	-----
KODIAK -NOME :	4	84.6-86.6	3.0	5.3	.60	-----	-----	-----	-----
KODIAK -VNDNBERG:	4	84.6-86.6	9.0	15.5	1.35	-----	-----	-----	-----
KWAJAL26-MOJAVE12:	15	84.6-86.7	16.2	60.5	3.51	66.1	11.9	33.0	1.12
KWAJAL26-VNDNBERG:	11	84.6-86.7	12.9	40.7	1.95	27.1	19.5	36.9	1.79
MAMMOTHL-MOJAVE12:	4	83.6-86.9	7.0	12.1	8.01	-----	-----	-----	-----
MAMMOTHL-OVRO 130:	4	83.6-86.9	3.4	5.8	1.55	-----	-----	-----	-----
MAMMOTHL-VNDNBERG:	2	84.9-86.9	13.4	13.4	24.74	-----	-----	-----	-----
MARPOINT-ONSALA60:	4	82.5-83.7	70.7	122.4	.88	-----	-----	-----	-----
MARPOINT-OVRO 130:	3	82.5-82.9	25.5	36.0	.53	-----	-----	-----	-----
MARPOINT-WESTFORD:	4	82.5-83.7	1.3	2.3	.02	-----	-----	-----	-----
MEDICINA-ONSALA60:	3	87.4-88.0	3.1	4.3	.86	-----	-----	-----	-----
MEDICINA-RICHMOND:	4	87.3-88.0	10.4	18.0	2.30	-----	-----	-----	-----
MEDICINA-WESTFORD:	5	87.3-88.0	5.7	11.3	1.56	-----	-----	-----	-----

Baseline	num obs	span yr to yr	error mm	wrms mm	chi sqr	rate mm/yr	error mm/yr	wrms mm	chi sqr
MEDICINA-WETTZELL:	4	87.3-88.0	.7	1.3	.10	-----	-----	-----	-----
MOJ 7288-MOJAVE12:	1	87.9-87.9	1.8	0.0	0.00	-----	-----	-----	-----
MOJ 7288-OVR 7853:	1	87.9-87.9	2.0	0.0	0.00	-----	-----	-----	-----
MOJ 7288-OVRO 130:	1	87.9-87.9	1.9	0.0	0.00	-----	-----	-----	-----
MOJAVE12-MON PEAK:	24	83.6-88.0	4.5	21.4	43.99	19.4	1.3	6.4	4.09
MOJAVE12-OCOTILLO:	3	84.3-85.3	5.3	7.5	3.21	-----	-----	-----	-----
MOJAVE12-ONSALA60:	14	83.9-87.9	12.9	46.6	4.11	13.3	14.9	45.1	4.17
MOJAVE12-OVR 7853:	1	87.9-87.9	1.6	0.0	0.00	-----	-----	-----	-----
MOJAVE12-OVRO 130:	62	83.6-87.9	.9	7.2	5.06	-2.3	.6	6.6	4.22
MOJAVE12-PBLOSSOM:	8	83.7-88.0	9.3	24.6	35.84	16.6	1.2	4.4	1.34
MOJAVE12-PINFLATS:	17	83.9-88.0	2.8	11.2	12.64	11.0	1.0	3.9	1.61
MOJAVE12-PLATTVIL:	13	84.4-87.4	3.3	11.5	2.87	7.1	2.7	9.0	1.94
MOJAVE12-PRESIDIO:	10	83.7-87.9	3.1	9.2	2.33	3.1	2.9	8.6	2.29
MOJAVE12-PTEREYES:	7	83.7-87.9	5.3	13.1	4.93	9.5	2.8	7.1	1.76
MOJAVE12-PVERDES :	4	83.9-88.0	24.1	41.8	100.23	-----	-----	-----	-----
MOJAVE12-QUINCY :	7	83.6-87.9	4.4	10.8	5.91	-5.0	2.9	8.6	4.43
MOJAVE12-RICHMOND:	2	84.1-85.5	10.9	10.9	1.56	-----	-----	-----	-----
MOJAVE12-SANPAULA:	5	83.8-88.0	20.6	41.3	43.03	25.7	3.5	9.6	3.11
MOJAVE12-SNDPOINT:	1	87.7-87.7	71.9	0.0	0.00	-----	-----	-----	-----
MOJAVE12-SOURDOGH:	2	87.7-87.7	7.2	7.2	.71	-----	-----	-----	-----
MOJAVE12-VERNAL :	2	86.3-87.4	3.1	3.1	.72	-----	-----	-----	-----
MOJAVE12-VNDNBERG:	89	83.7-88.0	3.7	35.1	70.55	33.6	.8	7.8	3.52
MOJAVE12-WESTFORD:	39	83.6-87.9	2.6	16.0	1.50	-5.3	2.1	14.8	1.32
MOJAVE12-WETTZELL:	17	84.7-87.9	11.6	46.5	4.76	12.1	13.0	45.2	4.80
MOJAVE12-YAKATAGA:	2	87.7-87.7	10.2	10.2	1.30	-----	-----	-----	-----
MOJAVE12-YUMA :	17	83.9-88.0	1.1	4.5	1.47	-.3	1.5	4.5	1.56
MON PEAK-OVRO 130:	16	82.9-87.9	4.7	18.2	17.08	13.3	1.5	7.1	2.80
MON PEAK-QUINCY :	7	83.6-87.9	3.7	9.1	2.55	2.6	2.8	8.4	2.60
MON PEAK-VNDNBERG:	18	83.9-87.9	3.0	12.2	6.21	9.1	2.9	9.6	4.05
MON PEAK-YUMA :	8	83.9-88.0	8.1	21.5	17.45	22.5	3.2	7.0	2.14
NOME -SNDPOINT:	3	84.6-86.7	7.8	11.1	2.92	-----	-----	-----	-----
NOME -VNDNBERG:	7	84.6-86.7	9.5	23.3	1.83	2.1	14.9	23.2	2.18
NRAO 140-ONSALA60:	4	82.0-83.0	143.8	249.0	3.32	-----	-----	-----	-----
NRAO 140-OVRO 130:	7	79.7-83.0	17.4	42.6	.74	16.9	26.2	41.0	.82
NRAO 140-WESTFORD:	4	82.0-83.0	5.8	10.1	.81	-----	-----	-----	-----
OCOTILLO-OVRO 130:	1	85.3-85.3	4.9	0.0	0.00	-----	-----	-----	-----
OCOTILLO-PVERDES :	1	85.3-85.3	6.8	0.0	0.00	-----	-----	-----	-----
OCOTILLO-VNDNBERG:	3	84.3-85.3	9.6	13.5	5.17	-----	-----	-----	-----
ONSALA60-OVRO 130:	34	80.7-87.9	22.8	130.7	29.08	-48.8	4.2	57.0	5.70
ONSALA60-RICHMOND:	32	84.1-88.0	3.2	18.0	2.80	-12.4	2.2	12.5	1.39
ONSALA60-ROBLED32:	1	83.4-83.4	65.9	0.0	0.00	-----	-----	-----	-----
ONSALA60-WESTFORD:	100	81.9-88.0	1.5	14.7	1.48	-5.2	1.1	13.3	1.22
ONSALA60-WETTZELL:	73	84.0-88.0	.8	7.0	1.28	-2.8	.7	6.3	1.07
OVR 7853-OVRO 130:	1	87.9-87.9	1.7	0.0	0.00	-----	-----	-----	-----
OVRO 130-PBLOSSOM:	7	83.2-87.9	7.5	18.4	17.66	11.5	1.0	3.5	.78
OVRO 130-PINFLATS:	7	83.9-86.9	3.7	9.0	5.09	9.4	4.1	6.3	2.95
OVRO 130-PLATTVIL:	7	83.5-87.4	4.3	10.5	2.24	8.8	1.9	4.5	.49
OVRO 130-PRESIDIO:	8	83.7-87.9	6.5	17.2	5.44	12.1	4.2	11.1	2.63
OVRO 130-PTEREYES:	5	83.7-87.9	13.9	27.9	13.21	18.6	5.2	12.2	3.36

Baseline	num obs	span yr to yr	error mm	wrms mm	chi sqr	rate mm/yr	error mm/yr	wrms mm	chi sqr
OVRO 130-PVERDES :	2	83.9-85.3	7.5	7.5	3.43	-----	-----	-----	-----
OVRO 130-QUINCY :	9	82.9-87.9	3.5	9.9	4.20	-4.0	1.8	7.6	2.79
OVRO 130-SANPAULA:	1	83.8-83.8	9.6	0.0	0.00	-----	-----	-----	-----
OVRO 130-VNDNBERG:	40	83.7-87.9	6.3	39.1	84.19	35.8	1.3	8.8	4.41
OVRO 130-WESTFORD:	25	81.5-87.9	4.4	21.6	1.61	-6.8	3.6	20.1	1.46
OVRO 130-WETTZELL:	7	85.3-87.9	19.4	47.5	6.05	16.0	25.0	45.7	6.71
OVRO 130-YUMA :	7	83.9-87.9	2.6	6.4	2.26	1.0	4.1	6.4	2.67
PBLOSSOM-VNDNBERG:	8	83.7-88.0	8.4	22.3	15.36	15.4	1.5	5.1	.95
PENTICTN-YELLOWKN:	2	84.7-85.8	7.9	7.9	2.21	-----	-----	-----	-----
PINFLATS-PVERDES :	2	87.3-88.0	1.1	1.1	.07	-----	-----	-----	-----
PINFLATS-VNDNBERG:	16	83.9-88.0	3.9	15.0	7.86	14.3	2.3	7.8	2.29
PINFLATS-YUMA :	6	83.9-87.0	5.7	12.8	5.21	5.8	9.5	12.3	5.95
PLATTVIL-VERNAL :	1	86.3-86.3	7.1	0.0	0.00	-----	-----	-----	-----
PLATTVIL-WESTFORD:	5	83.5-87.4	8.2	16.4	2.27	-2.1	9.8	16.3	2.99
PRESIDIO-PTEREYES:	4	83.7-85.9	4.8	8.3	1.48	-----	-----	-----	-----
PRESIDIO-VNDNBERG:	10	83.7-87.9	2.9	8.7	2.93	3.4	2.6	7.9	2.71
PRESIDIO-YUMA :	1	87.2-87.2	5.3	0.0	0.00	-----	-----	-----	-----
PTEREYES-VNDNBERG:	7	83.7-87.9	1.3	3.1	.40	1.4	1.0	2.6	.34
PTEREYES-YUMA :	1	87.9-87.9	8.3	0.0	0.00	-----	-----	-----	-----
PVERDES -VNDNBERG:	4	83.9-88.0	9.7	16.8	10.25	-----	-----	-----	-----
QUINCY -VNDNBERG:	5	84.4-87.9	11.0	22.1	28.30	21.1	2.7	4.8	1.81
RICHMOND-WESTFORD:	253	84.1-88.1	.7	10.5	2.38	-7.6	.4	7.0	1.06
RICHMOND-WETTZELL:	242	84.1-88.1	1.3	20.1	2.65	-14.4	.9	13.7	1.24
ROBLED32-WESTFORD:	1	83.4-83.4	126.4	0.0	0.00	-----	-----	-----	-----
SANPAULA-VNDNBERG:	5	83.8-88.0	8.4	16.8	5.15	7.1	4.8	12.7	3.94
SNDPOINT-VNDNBERG:	3	84.6-86.7	15.7	22.2	2.68	-----	-----	-----	-----
SOURDOGH-VNDNBERG:	8	84.7-86.7	6.1	16.3	1.90	13.4	6.4	12.4	1.29
SOURDOGH-WHTHORSE:	3	84.7-86.7	6.2	8.7	3.19	-----	-----	-----	-----
SOURDOGH-YAKATAGA:	4	84.7-86.7	2.6	4.5	1.19	-----	-----	-----	-----
VNDNBERG-WHTHORSE:	3	84.7-86.7	18.2	25.7	6.81	-----	-----	-----	-----
VNDNBERG-YAKATAGA:	4	84.7-86.7	10.8	18.7	3.20	-----	-----	-----	-----
VNDNBERG-YUMA :	15	83.9-87.9	5.0	18.5	13.20	24.0	3.9	9.4	3.65
WESTFORD-WETTZELL:	325	84.0-88.1	.8	14.1	1.91	-9.2	.6	10.4	1.03

TABLE 6.4
VERTICAL STATISTICAL SUMMARY
MEAN

Baseline	num obs	span yr to yr	error (mm)	wrms (mm)	chi sqr
ALGOPARK-GILCREEK:	4	84.7-85.8	26.7	46.2	3.79
ALGOPARK-HRAS 085:	5	84.7-85.8	22.2	44.4	2.34
ALGOPARK-MOJAVE12:	1	85.7-85.7	30.3	0.0	0.00
ALGOPARK-PENTICTN:	3	84.7-85.8	53.2	75.2	1.48
ALGOPARK-WESTFORD:	2	84.7-85.7	7.9	7.9	.28
ALGOPARK-YELLOWKN:	2	84.7-85.8	3.4	3.4	.02
BLKBUTTE-HATCREEK:	3	87.2-87.9	42.9	60.7	2.90
BLKBUTTE-HRAS 085:	3	83.9-86.9	26.7	37.8	2.08
BLKBUTTE-MOJAVE12:	10	83.9-87.9	13.5	40.4	1.38
BLKBUTTE-MON PEAK:	4	83.9-86.9	36.5	63.2	2.73
BLKBUTTE-OCOTILLA:	2	84.3-85.1	2.3	2.3	.00
BLKBUTTE-OVRO 130:	3	86.5-87.9	21.2	30.0	1.57
BLKBUTTE-PRESIDIO:	2	87.5-87.9	85.7	85.7	6.61
BLKBUTTE-PTEREYES:	1	87.2-87.2	46.3	0.0	0.00
BLKBUTTE-VNDNBERG:	10	83.9-87.9	15.7	47.0	1.38
CHLBOLTN-HAYSTACK:	7	80.9-80.9	7.8	19.0	.12
CHLBOLTN-HRAS 085:	7	80.9-80.9	12.1	29.6	.16
CHLBOLTN-ONSALA60:	7	80.9-80.9	17.8	43.6	1.74
CHLBOLTN-OVRO 130:	7	80.9-80.9	8.9	21.9	.12
DEADMANL-MOJAVE12:	4	84.2-88.0	34.3	59.4	3.10
DEADMANL-SANPAULA:	4	84.2-88.0	48.7	84.4	2.62
DEADMANL-VNDNBERG:	4	84.2-88.0	48.7	84.3	4.51
DSS15 -GOLDVENU:	1	87.9-87.9	9.7	0.0	0.00
DSS15 -MOJ 7288:	1	87.9-87.9	12.5	0.0	0.00
DSS15 -MOJAVE12:	1	87.9-87.9	8.6	0.0	0.00
DSS15 -OVR 7853:	1	87.9-87.9	9.5	0.0	0.00
DSS15 -OVRO 130:	1	87.9-87.9	9.0	0.0	0.00
EFLSBERG-HAYSTACK:	8	80.0-83.4	54.1	143.2	.49
EFLSBERG-HRAS 085:	6	80.7-83.4	65.5	146.4	.25
EFLSBERG-NRAO 140:	1	80.0-80.0	334.4	0.0	0.00
EFLSBERG-ONSALA60:	6	80.7-83.4	13.5	30.3	.50
EFLSBERG-OVRO 130:	6	80.0-80.8	80.2	179.4	.23
EFLSBERG-ROBLED32:	1	83.4-83.4	79.1	0.0	0.00
EFLSBERG-WESTFORD:	1	83.4-83.4	147.5	0.0	0.00
ELY -HATCREEK:	3	85.4-87.4	32.5	46.0	2.58
ELY -HRAS 085:	4	84.4-87.4	34.0	58.8	3.21
ELY -MOJAVE12:	4	84.4-87.4	37.8	65.4	4.71
ELY -OVRO 130:	1	86.3-86.3	27.8	0.0	0.00
ELY -PLATTVIL:	3	84.4-86.3	50.8	71.9	1.78
ELY -VNDNBERG:	1	87.4-87.4	43.9	0.0	0.00
ELY -YUMA :	1	87.4-87.4	45.8	0.0	0.00
FLAGSTAF-HATCREEK:	4	84.4-87.4	32.5	56.4	2.86

Baseline	num obs	span yr to yr	error (mm)	wrms (mm)	chi sqr
FLAGSTAF-HRAS 085:	4	84.4-87.4	25.7	44.5	1.90
FLAGSTAF-MOJAVE12:	4	84.4-87.4	28.3	49.1	2.59
FLAGSTAF-PLATTVIL:	3	84.4-86.3	31.2	44.2	1.24
FLAGSTAF-VERNAL :	1	87.4-87.4	33.4	0.0	0.00
FORT ORD-HATCREEK:	6	84.2-87.9	35.7	79.9	3.93
FORT ORD-HRAS 085:	4	85.3-87.9	43.2	74.7	3.41
FORT ORD-JPL MV1 :	1	87.9-87.9	36.3	0.0	0.00
FORT ORD-MOJAVE12:	7	83.7-87.9	21.3	52.2	2.29
FORT ORD-MON PEAK:	1	87.2-87.2	40.3	0.0	0.00
FORT ORD-OVRO 130:	5	83.7-87.9	16.2	32.4	.91
FORT ORD-PRESIDIO:	3	83.7-85.9	74.5	105.4	3.49
FORT ORD-PTEREYES:	1	87.5-87.5	49.9	0.0	0.00
FORT ORD-VNDNBERG:	7	83.7-87.9	25.2	61.6	2.58
GILCREEK-HATCREEK:	21	85.4-87.9	7.0	31.4	1.66
GILCREEK-HAYSTACK:	25	84.7-87.9	7.4	36.1	2.12
GILCREEK-HRAS 085:	23	84.7-88.0	6.1	28.8	1.36
GILCREEK-KASHIMA :	49	84.7-88.0	7.9	54.5	2.76
GILCREEK-KAUAI :	38	84.6-88.0	7.9	48.1	2.82
GILCREEK-KODIAK :	6	84.6-87.6	19.0	42.4	1.22
GILCREEK-KWAJAL26:	14	84.6-86.7	22.6	81.6	2.73
GILCREEK-MOJAVE12:	53	84.6-87.9	4.3	31.0	2.21
GILCREEK-NOME :	7	84.6-86.7	15.7	38.4	.94
GILCREEK-ONSALA60:	5	85.6-87.9	15.3	30.7	1.03
GILCREEK-OVRO 130:	6	85.4-87.9	17.9	40.0	3.11
GILCREEK-PENTICTN:	2	84.7-85.8	35.8	35.8	.63
GILCREEK-PLATTVIL:	4	85.4-87.4	30.7	53.2	4.01
GILCREEK-RICHMOND:	6	87.4-88.0	34.5	77.2	2.34
GILCREEK-SESHAN25:	1	87.5-87.5	109.2	0.0	0.00
GILCREEK-SHANGHAI:	1	86.5-86.5	178.9	0.0	0.00
GILCREEK-SNDPOINT:	4	84.6-87.7	28.8	49.9	.77
GILCREEK-SOURDOGH:	10	84.7-87.7	16.0	47.9	2.61
GILCREEK-VNDNBERG:	35	84.6-87.9	5.7	33.3	1.59
GILCREEK-WESTFORD:	23	84.7-87.9	7.5	35.0	2.06
GILCREEK-WETTZELL:	8	84.7-87.9	27.9	73.8	5.15
GILCREEK-WHTHORSE:	3	84.7-86.7	43.6	61.6	2.95
GILCREEK-YAKATAGA:	7	84.7-87.7	13.1	32.0	1.00
GILCREEK-YELLOWKN:	2	84.7-85.8	39.3	39.3	2.32
GOLDVENU-HRAS 085:	2	82.6-82.9	11.1	11.1	.08
GOLDVENU-MOJ 7288:	1	87.9-87.9	11.7	0.0	0.00
GOLDVENU-MOJAVE12:	4	83.7-87.9	4.1	7.1	.59
GOLDVENU-ONSALA60:	2	82.5-82.6	8.2	8.2	.00
GOLDVENU-OVR 7853:	1	87.9-87.9	9.2	0.0	0.00
GOLDVENU-OVRO 130:	5	82.5-87.9	9.1	18.2	1.08
GOLDVENU-PRESIDIO:	1	83.7-83.7	84.6	0.0	0.00
GOLDVENU-PTEREYES:	1	83.7-83.7	70.8	0.0	0.00
GOLDVENU-QUINCY :	1	82.9-82.9	49.0	0.0	0.00
GOLDVENU-VNDNBERG:	1	83.7-83.7	69.8	0.0	0.00
GOLDVENU-WESTFORD:	2	82.5-82.6	57.9	57.9	.21
HARTRAO -HRAS 085:	1	87.2-87.2	70.6	0.0	0.00

Baseline	num obs	span yr to yr	error (mm)	wrms (mm)	chi sqr
HARTRAO -MEDICINA:	1	88.0-88.0	66.1	0.0	0.00
HARTRAO -ONSALA60:	4	86.1-87.2	49.4	85.6	2.27
HARTRAO -RICHMOND:	13	86.1-88.1	19.5	67.6	1.19
HARTRAO -WESTFORD:	14	86.1-88.1	18.0	65.0	1.03
HARTRAO -WETTZELL:	9	86.1-88.1	23.2	65.7	2.06
HATCREEK-HAYSTACK:	8	83.5-87.4	14.7	39.0	1.44
HATCREEK-HRAS 085:	35	83.5-87.9	6.2	36.2	1.39
HATCREEK-JPL MV1 :	2	83.6-87.9	16.3	16.3	.27
HATCREEK-KASHIMA :	11	84.2-87.9	9.8	31.0	.98
HATCREEK-KAUAI :	10	85.5-87.9	14.9	44.6	2.85
HATCREEK-KODIAK :	2	87.6-87.6	36.0	36.0	1.40
HATCREEK-MAMMOTHL:	1	83.6-83.6	71.2	0.0	0.00
HATCREEK-MOJAVE12:	55	83.6-87.9	3.6	26.5	1.21
HATCREEK-MON PEAK:	12	83.6-87.3	12.6	41.6	1.19
HATCREEK-OVRO 130:	26	83.5-87.9	8.2	40.8	1.90
HATCREEK-PLATTVIL:	14	83.5-87.4	15.8	57.0	2.46
HATCREEK-PRESIDIO:	7	84.2-87.9	23.6	57.9	2.34
HATCREEK-PTEREYES:	5	84.2-87.9	27.6	55.1	2.09
HATCREEK-QUINCY :	4	83.6-86.9	38.0	65.8	2.39
HATCREEK-SNDPOINT:	1	87.7-87.7	1577.6	0.0	0.00
HATCREEK-VERNAL :	2	86.3-87.4	43.1	43.1	3.15
HATCREEK-VNDNBERG:	33	84.2-87.9	6.8	38.7	1.82
HATCREEK-WESTFORD:	7	83.5-87.4	15.2	37.3	1.37
HATCREEK-YAKATAGA:	3	87.7-87.7	6.0	8.5	.07
HATCREEK-YUMA :	8	85.3-87.9	16.0	42.3	1.59
HAYSTACK-HRAS 085:	480	80.4-88.1	2.6	56.0	1.23
HAYSTACK-KASHIMA :	8	84.7-87.9	32.6	86.2	4.61
HAYSTACK-MARPOINT:	6	82.5-83.7	17.9	40.1	.78
HAYSTACK-MOJAVE12:	43	83.6-87.9	5.8	37.5	2.14
HAYSTACK-NRAO 140:	9	79.7-83.0	17.7	50.0	2.65
HAYSTACK-ONSALA60:	139	80.7-88.0	5.5	64.3	2.03
HAYSTACK-OVRO 130:	54	79.7-87.9	10.2	74.3	2.48
HAYSTACK-PLATTVIL:	6	83.5-87.4	18.0	40.2	1.26
HAYSTACK-ROBLED32:	2	83.4-83.4	18.9	18.9	.04
HAYSTACK-WESTFORD:	9	81.5-86.8	3.9	11.1	1.00
HAYSTACK-WETTZELL:	331	84.0-88.1	3.0	55.2	1.56
HRAS 085-JPL MV1 :	3	82.9-87.9	31.7	44.9	1.17
HRAS 085-KASHIMA :	6	87.4-88.0	26.6	59.5	1.32
HRAS 085-MAMMOTHL:	1	83.6-83.6	74.6	0.0	0.00
HRAS 085-MARPOINT:	2	82.9-83.7	13.3	13.3	.06
HRAS 085-MEDICINA:	3	87.3-88.0	22.3	31.5	.84
HRAS 085-MOJAVE12:	79	83.6-88.0	3.0	26.4	1.31
HRAS 085-MON PEAK:	25	82.9-88.0	10.0	48.8	1.48
HRAS 085-NRAO 140:	5	80.4-83.0	29.7	59.5	1.18
HRAS 085-ONSALA60:	90	80.7-88.0	7.6	71.7	1.30
HRAS 085-OVRO 130:	68	80.4-87.9	5.8	47.8	1.82
HRAS 085-PENTICTN:	3	84.7-85.8	76.6	108.3	2.72
HRAS 085-PINFLATS:	5	85.9-87.0	25.7	51.4	2.36
HRAS 085-PLATTVIL:	14	83.5-87.4	15.5	55.8	2.34

Baseline	num obs	span yr to yr	error (mm)	wrms (mm)	chi sqr
HRAS 085-PRESIDIO:	5	85.3-87.2	35.0	70.0	2.73
HRAS 085-PTEREYES:	2	85.3-85.9	12.3	12.3	.11
HRAS 085-QUINCY :	8	82.9-87.9	27.9	73.7	3.08
HRAS 085-RICHMOND:	243	84.1-88.1	3.3	51.5	.78
HRAS 085-ROBLED32:	1	83.4-83.4	173.6	0.0	0.00
HRAS 085-VERNAL :	2	86.3-87.4	66.1	66.1	10.66
HRAS 085-VNDNBERG:	28	83.9-87.9	9.8	51.1	2.56
HRAS 085-WESTFORD:	447	81.5-88.1	2.5	53.3	1.16
HRAS 085-WETTZELL:	291	84.0-88.1	3.4	58.3	1.05
HRAS 085-YELLOWKN:	2	84.7-85.8	44.4	44.4	2.14
HRAS 085-YUMA :	14	83.9-88.0	13.4	48.4	2.21
JPL MV1 -MAMMOTHL:	4	83.6-86.9	29.6	51.3	.80
JPL MV1 -MOJAVE12:	18	83.6-88.0	7.9	32.6	.73
JPL MV1 -MON PEAK:	1	82.9-82.9	93.4	0.0	0.00
JPL MV1 -OVRO 130:	17	82.9-87.9	13.2	53.0	1.23
JPL MV1 -PBLOSSOM:	7	83.2-88.0	22.2	54.4	.71
JPL MV1 -PINFLATS:	6	83.9-87.0	24.9	55.6	1.72
JPL MV1 -QUINCY :	1	82.9-82.9	488.6	0.0	0.00
JPL MV1 -VNDNBERG:	15	83.7-88.0	23.5	87.8	4.49
KASHIMA -KAUAI :	36	84.7-88.0	6.8	40.0	1.95
KASHIMA -KWAJAL26:	12	84.7-86.7	13.1	43.3	1.12
KASHIMA -MOJAVE12:	30	84.1-87.9	11.4	61.6	3.09
KASHIMA -ONSALA60:	5	85.6-87.9	22.3	44.6	1.49
KASHIMA -RICHMOND:	6	87.4-88.0	20.2	45.2	.67
KASHIMA -SESHAN25:	1	87.5-87.5	114.5	0.0	0.00
KASHIMA -SHANGHAI:	1	86.5-86.5	198.0	0.0	0.00
KASHIMA -VNDNBERG:	17	85.5-87.9	11.9	47.4	2.29
KASHIMA -WESTFORD:	6	85.6-87.9	25.6	57.1	2.11
KASHIMA -WETTZELL:	8	84.7-87.9	31.2	82.5	5.23
KAUAI -KWAJAL26:	15	84.6-86.7	11.2	41.8	.78
KAUAI -MOJAVE12:	24	84.6-87.9	8.9	42.5	2.28
KAUAI -SESHAN25:	1	87.5-87.5	110.0	0.0	0.00
KAUAI -SHANGHAI:	1	86.5-86.5	190.4	0.0	0.00
KAUAI -VNDNBERG:	20	84.6-87.9	11.6	50.5	3.42
KODIAK -MOJAVE12:	2	87.6-87.6	31.1	31.1	1.28
KODIAK -NOME :	4	84.6-86.6	36.0	62.3	1.03
KODIAK -VNDNBERG:	4	84.6-86.6	33.9	58.8	1.15
KWAJAL26-MOJAVE12:	15	84.6-86.7	20.6	77.0	2.11
KWAJAL26-VNDNBERG:	11	84.6-86.7	25.1	79.5	2.60
MAMMOTHL-MOJAVE12:	4	83.6-86.9	26.0	45.0	1.29
MAMMOTHL-OVRO 130:	4	83.6-86.9	9.2	15.9	.14
MAMMOTHL-VNDNBERG:	2	84.9-86.9	29.7	29.7	1.27
MARPOINT-ONSALA60:	4	82.5-83.7	139.6	241.8	1.45
MARPOINT-OVRO 130:	3	82.5-82.9	62.7	88.7	.77
MARPOINT-WESTFORD:	4	82.5-83.7	27.5	47.6	1.14
MEDICINA-ONSALA60:	3	87.4-88.0	21.4	30.2	5.00
MEDICINA-RICHMOND:	4	87.3-88.0	53.1	91.9	3.43
MEDICINA-WESTFORD:	5	87.3-88.0	21.2	42.5	1.92
MEDICINA-WETTZELL:	4	87.3-88.0	5.2	9.1	.52

Baseline	num obs	span yr to yr	error (mm)	wrms (mm)	chi sqr
MOJ 7288-MOJAVE12:	1	87.9-87.9	11.7	0.0	0.00
MOJ 7288-OVR 7853:	1	87.9-87.9	12.7	0.0	0.00
MOJ 7288-OVRO 130:	1	87.9-87.9	12.4	0.0	0.00
MOJAVE12-MON PEAK:	24	83.6-88.0	10.0	48.0	1.94
MOJAVE12-OCOTILLA:	3	84.3-85.3	60.9	86.1	2.95
MOJAVE12-ONSALA60:	14	83.9-87.9	17.0	61.4	3.03
MOJAVE12-OVR 7853:	1	87.9-87.9	7.5	0.0	0.00
MOJAVE12-OVRO 130:	62	83.6-87.9	4.2	33.1	2.20
MOJAVE12-PBLOSSOM:	8	83.7-88.0	19.7	52.0	2.10
MOJAVE12-PINFLATS:	17	83.9-88.0	12.3	49.0	2.28
MOJAVE12-PLATTVIL:	13	84.4-87.4	14.7	50.8	2.15
MOJAVE12-PRESIDIO:	10	83.7-87.9	19.4	58.3	2.04
MOJAVE12-PTEREYES:	7	83.7-87.9	12.3	30.1	.73
MOJAVE12-PVERDES :	4	83.9-88.0	10.3	17.8	.25
MOJAVE12-QUINCY :	7	83.6-87.9	21.5	52.7	2.46
MOJAVE12-RICHMOND:	2	84.1-85.5	8.9	8.9	.04
MOJAVE12-SANPAULA:	5	83.8-88.0	21.6	43.3	.96
MOJAVE12-SNDPOINT:	1	87.7-87.7	1551.2	0.0	0.00
MOJAVE12-SOURDOGH:	2	87.7-87.7	39.5	39.5	1.89
MOJAVE12-VERNAL :	2	86.3-87.4	65.8	65.8	12.71
MOJAVE12-VNDNBERG:	89	83.7-88.0	4.0	37.5	2.71
MOJAVE12-WESTFORD:	39	83.6-87.9	6.0	37.2	2.21
MOJAVE12-WETTZELL:	17	84.7-87.9	16.7	66.8	3.20
MOJAVE12-YAKATAGA:	2	87.7-87.7	1.3	1.3	.00
MOJAVE12-YUMA :	17	83.9-88.0	8.9	35.8	1.32
MON PEAK-OVRO 130:	16	82.9-87.9	11.8	45.8	1.46
MON PEAK-QUINCY :	7	83.6-87.9	31.1	76.3	2.49
MON PEAK-VNDNBERG:	18	83.9-87.9	13.9	57.1	2.56
MON PEAK-YUMA :	8	83.9-88.0	19.2	50.8	1.80
NOME -SNDPOINT:	3	84.6-86.7	42.5	60.1	1.10
NOME -VNDNBERG:	7	84.6-86.7	13.1	32.2	.38
NRAO 140-ONSALA60:	4	82.0-83.0	76.0	131.7	.64
NRAO 140-OVRO 130:	7	79.7-83.0	68.1	166.8	3.96
NRAO 140-WESTFORD:	4	82.0-83.0	24.0	41.6	2.61
OCOTILLA-OVRO 130:	1	85.3-85.3	50.9	0.0	0.00
OCOTILLA-PVERDES :	1	85.3-85.3	65.7	0.0	0.00
OCOTILLA-VNDNBERG:	3	84.3-85.3	69.6	98.4	3.54
ONSALA60-OVRO 130:	34	80.7-87.9	21.4	122.7	3.78
ONSALA60-RICHMOND:	32	84.1-88.0	11.7	64.9	1.38
ONSALA60-ROBLED32:	1	83.4-83.4	88.2	0.0	0.00
ONSALA60-WESTFORD:	100	81.9-88.0	6.1	60.6	2.15
ONSALA60-WETTZELL:	73	84.0-88.0	3.3	28.1	2.02
OVR 7853-OVRO 130:	1	87.9-87.9	8.7	0.0	0.00
OVRO 130-PBLOSSOM:	7	83.2-87.9	15.3	37.5	.82
OVRO 130-PINFLATS:	7	83.9-86.9	9.4	23.1	.41
OVRO 130-PLATTVIL:	7	83.5-87.4	30.6	74.9	4.68
OVRO 130-PRESIDIO:	8	83.7-87.9	34.2	90.5	3.25
OVRO 130-PTEREYES:	5	83.7-87.9	20.2	40.4	.91
OVRO 130-PVERDES :	2	83.9-85.3	41.4	41.4	.72

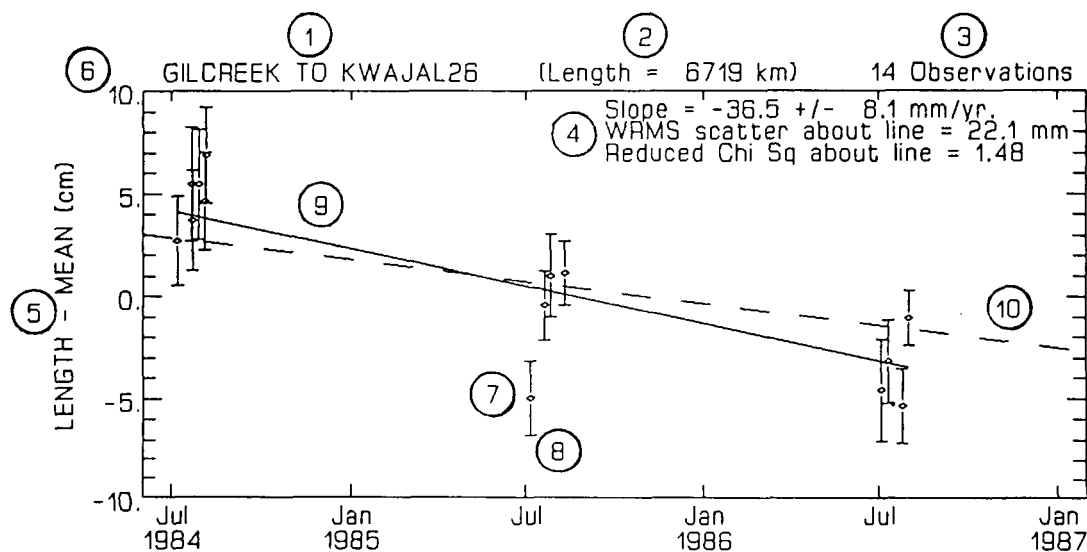
Baseline	num obs	span yr to yr	error (mm)	wrms (mm)	chi sqr
OVRO 130-QUINCY :	9	82.9-87.9	21.2	59.9	2.14
OVRO 130-SANPAULA:	1	83.8-83.8	83.7	0.0	0.00
OVRO 130-VNDNBERG:	40	83.7-87.9	10.0	62.6	3.48
OVRO 130-WESTFORD:	25	81.5-87.9	11.9	58.4	2.54
OVRO 130-WETTZELL:	7	85.3-87.9	29.9	73.2	4.54
OVRO 130-YUMA :	7	83.9-87.9	20.6	50.5	2.33
PBLOSSOM-VNDNBERG:	8	83.7-88.0	15.5	40.9	1.01
PENTICTN-YELLOWKN:	2	84.7-85.8	.5	.5	.00
PINFLATS-PVERDES :	2	87.3-88.0	25.7	25.7	.96
PINFLATS-VNDNBERG:	16	83.9-88.0	15.9	61.6	2.79
PINFLATS-YUMA :	6	83.9-87.0	11.4	25.5	.30
PLATTVIL-VERNAL :	1	86.3-86.3	46.7	0.0	0.00
PLATTVIL-WESTFORD:	5	83.5-87.4	15.1	30.2	.83
PRESIDIO-PTEREYES:	4	83.7-85.9	58.2	100.9	3.28
PRESIDIO-VNDNBERG:	10	83.7-87.9	26.5	79.5	3.07
PRESIDIO-YUMA :	1	87.2-87.2	37.9	0.0	0.00
PTEREYES-VNDNBERG:	7	83.7-87.9	11.8	29.0	.60
PTEREYES-YUMA :	1	87.9-87.9	53.4	0.0	0.00
PVERDES -VNDNBERG:	4	83.9-88.0	24.2	42.0	1.22
QUINCY -VNDNBERG:	5	84.4-87.9	19.6	39.3	1.27
RICHMOND-WESTFORD:	253	84.1-88.1	2.3	36.6	.81
RICHMOND-WETTZELL:	242	84.1-88.1	3.6	55.9	1.04
ROBLED32-WESTFORD:	1	83.4-83.4	135.7	0.0	0.00
SANPAULA-VNDNBERG:	5	83.8-88.0	25.4	50.8	1.08
SNDPOINT-VNDNBERG:	3	84.6-86.7	58.1	82.2	2.38
SOURDOGH-VNDNBERG:	8	84.7-86.7	16.3	43.1	.91
SOURDOGH-WHTHORSE:	3	84.7-86.7	32.7	46.3	1.07
SOURDOGH-YAKATAGA:	4	84.7-86.7	23.9	41.4	.81
VNDNBERG-WHTHORSE:	3	84.7-86.7	32.5	45.9	1.17
VNDNBERG-YAKATAGA:	4	84.7-86.7	7.4	12.8	.07
VNDNBERG-YUMA :	15	83.9-87.9	16.3	61.1	3.27
WESTFORD-WETTZELL:	325	84.0-88.1	3.0	53.1	1.42

7.0 BASELINE EVOLUTION

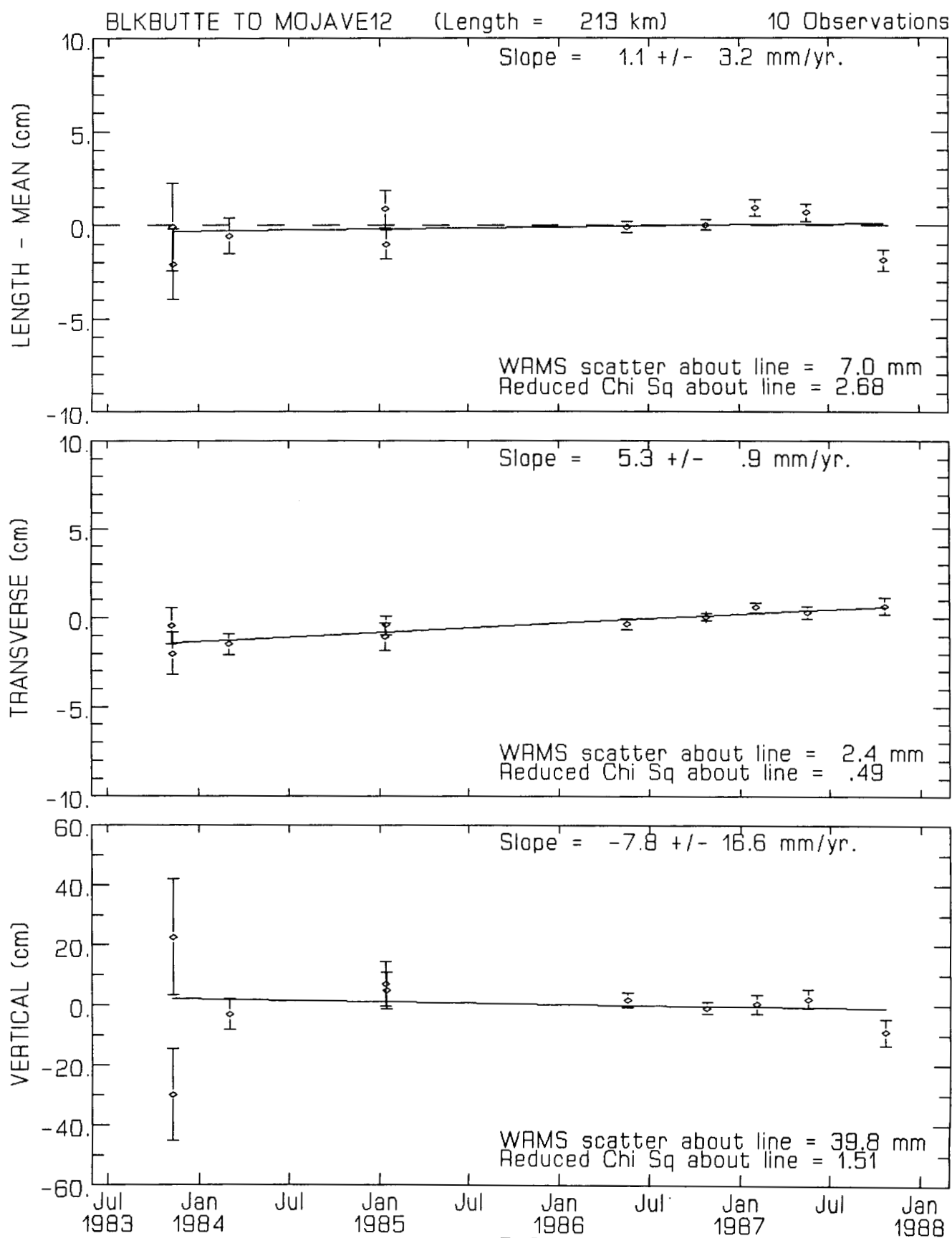
Plots 7-1 through 7-121 depict the observed variation of the baseline components with respect to their mean values over the period of the observations for those baselines with at least five observations spanning a minimum of two years. See the text for the definition and interpretation of the transverse and vertical components. The interpretation of the plots is indicated in the diagram below.

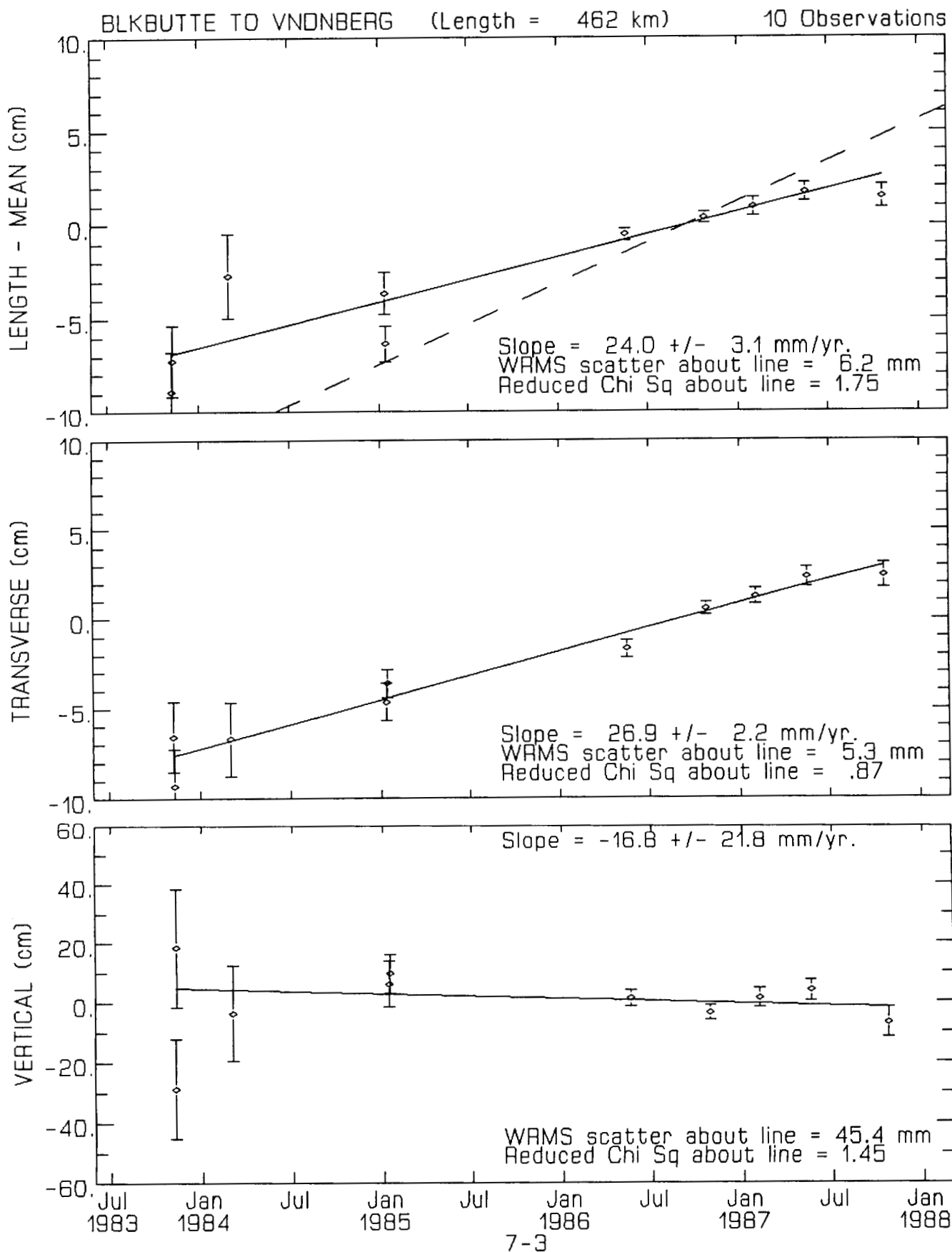
Tables 7.1 through 7.149 present the same information for those baselines not meeting the above criteria for plotting. The formal errors are one sigma standard statistical errors scaled according to the reduced chi-square of the solution GLB405. The transverse and vertical components are explicitly included so that the user may make comparisons between sessions.

The machine-readable version contains all the data plotted and tabulated in section 7.



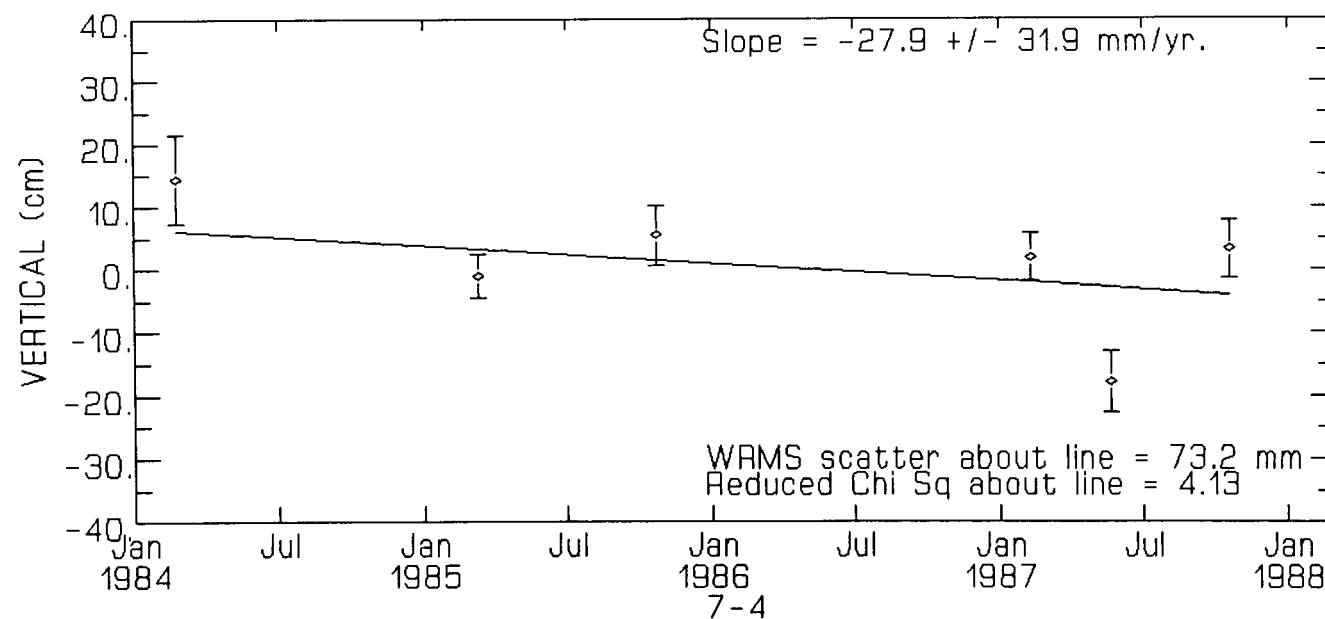
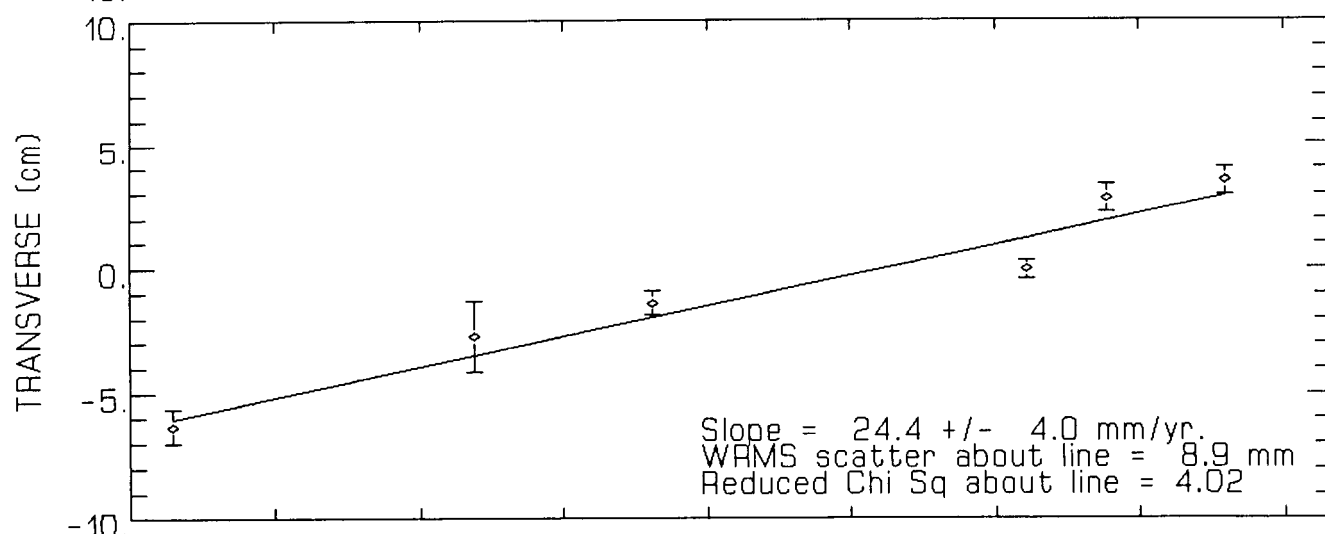
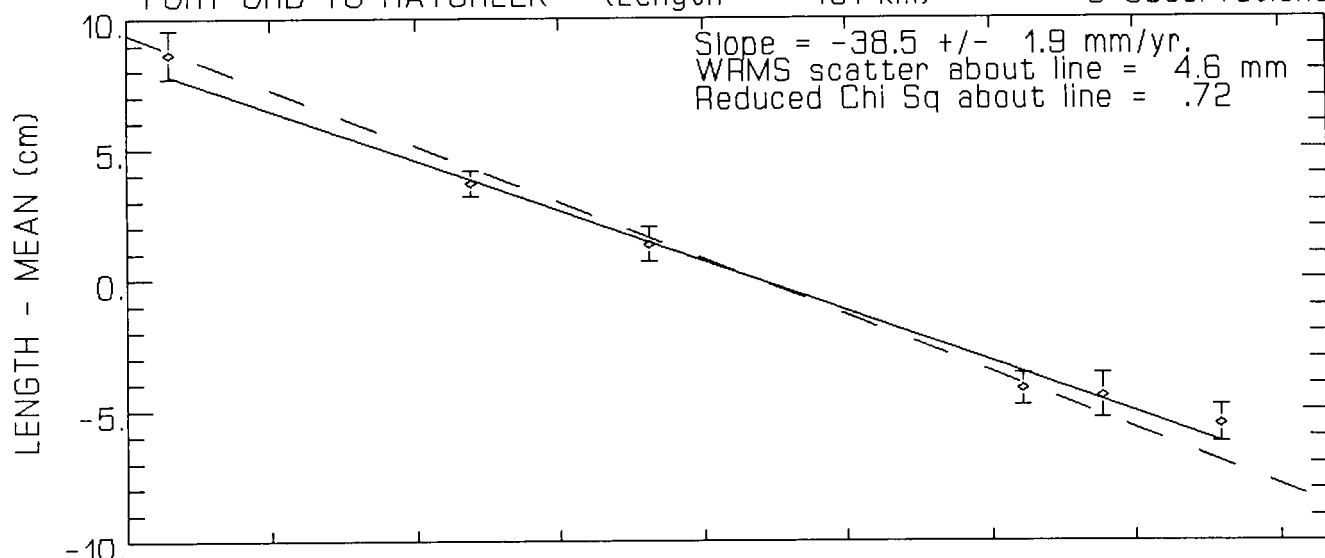
- 1 -- Baseline name
- 2 -- Baseline length
- 3 -- Number of observations on this baseline
- 4 -- Baseline component statistics (in mm/yr and mm)
- 5 -- Baseline component with mean subtracted (in cm)
- 6 -- Standard scales +/-10, +/-20, +/-30, +/-40, +/-60 cm
- 7 -- Observed value
- 8 -- One sigma formal error bar, style changes with number of observations. Some may be omitted for clarity.
- 9 -- Line of best fit by least squares
- 10 -- Dashed line (length plots only) indicates slope predicted by AMO-2 assuming sites occupy plates indicated in Table 4.1 (ignoring regional deformation).

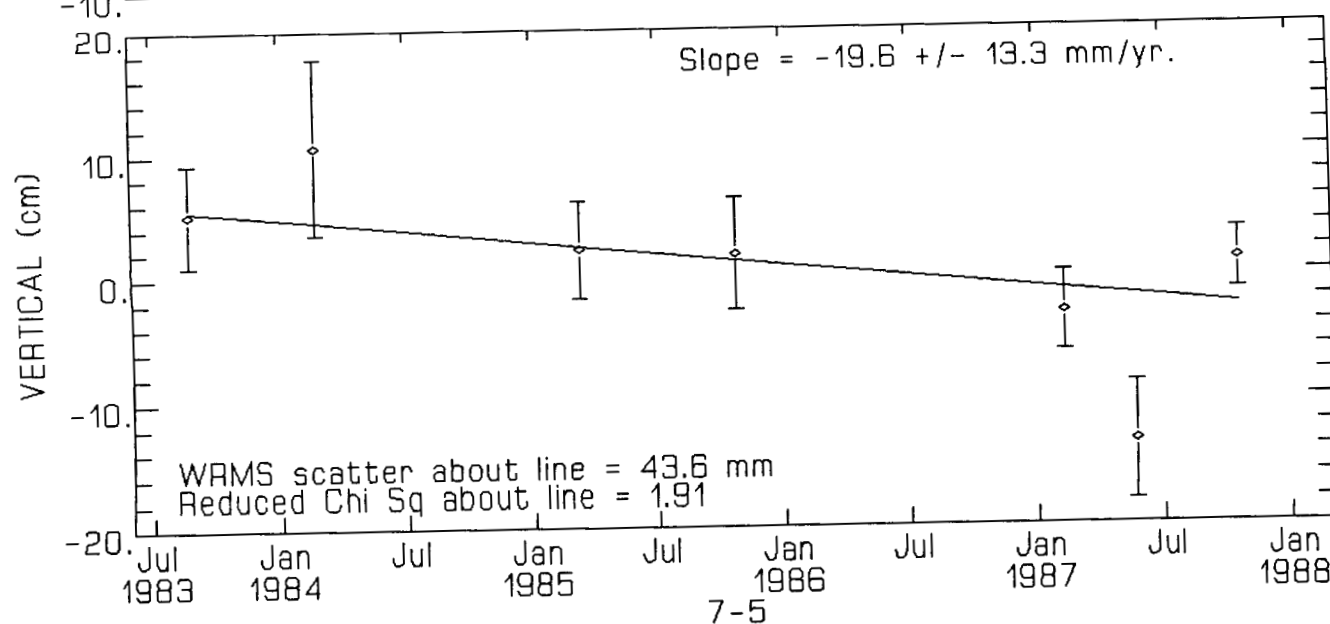
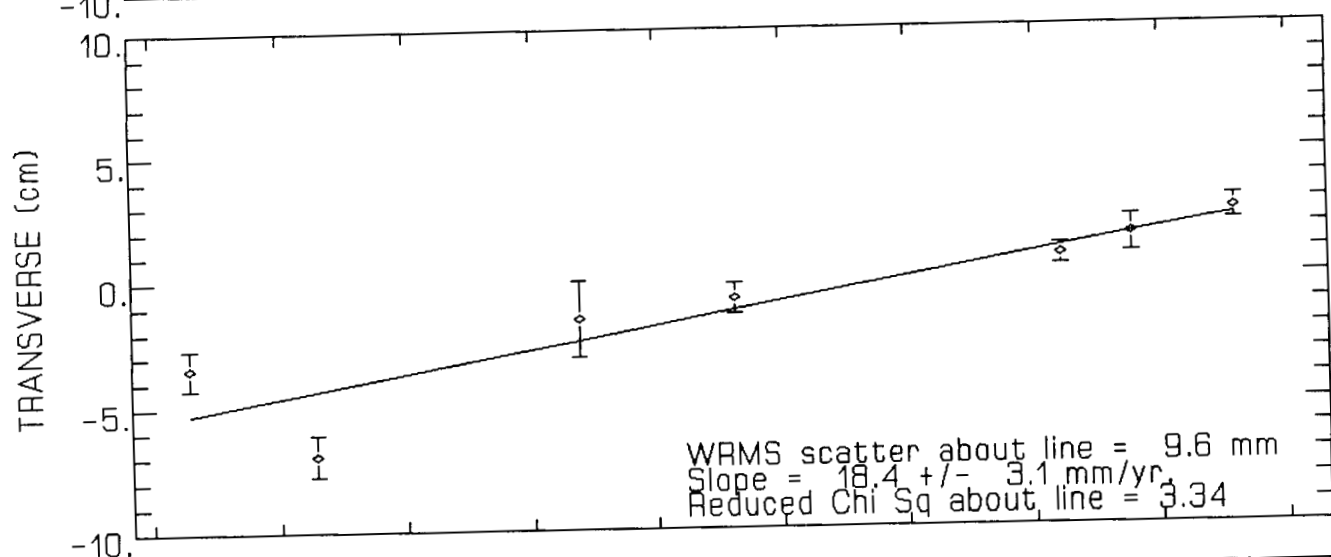
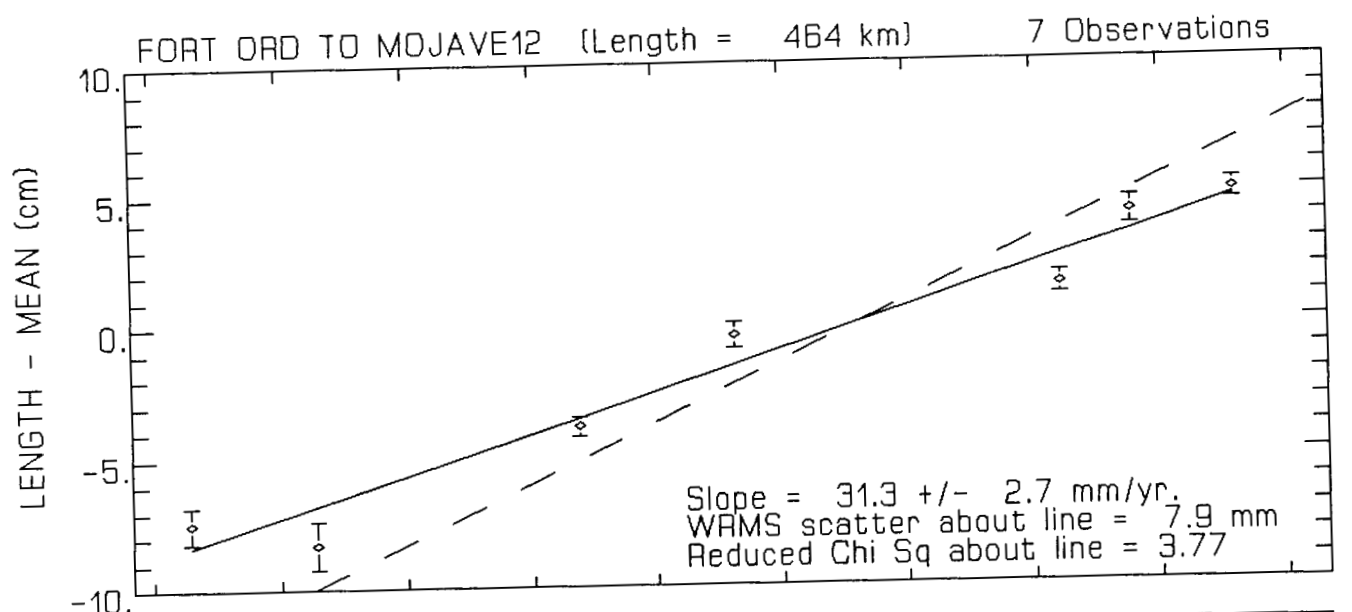


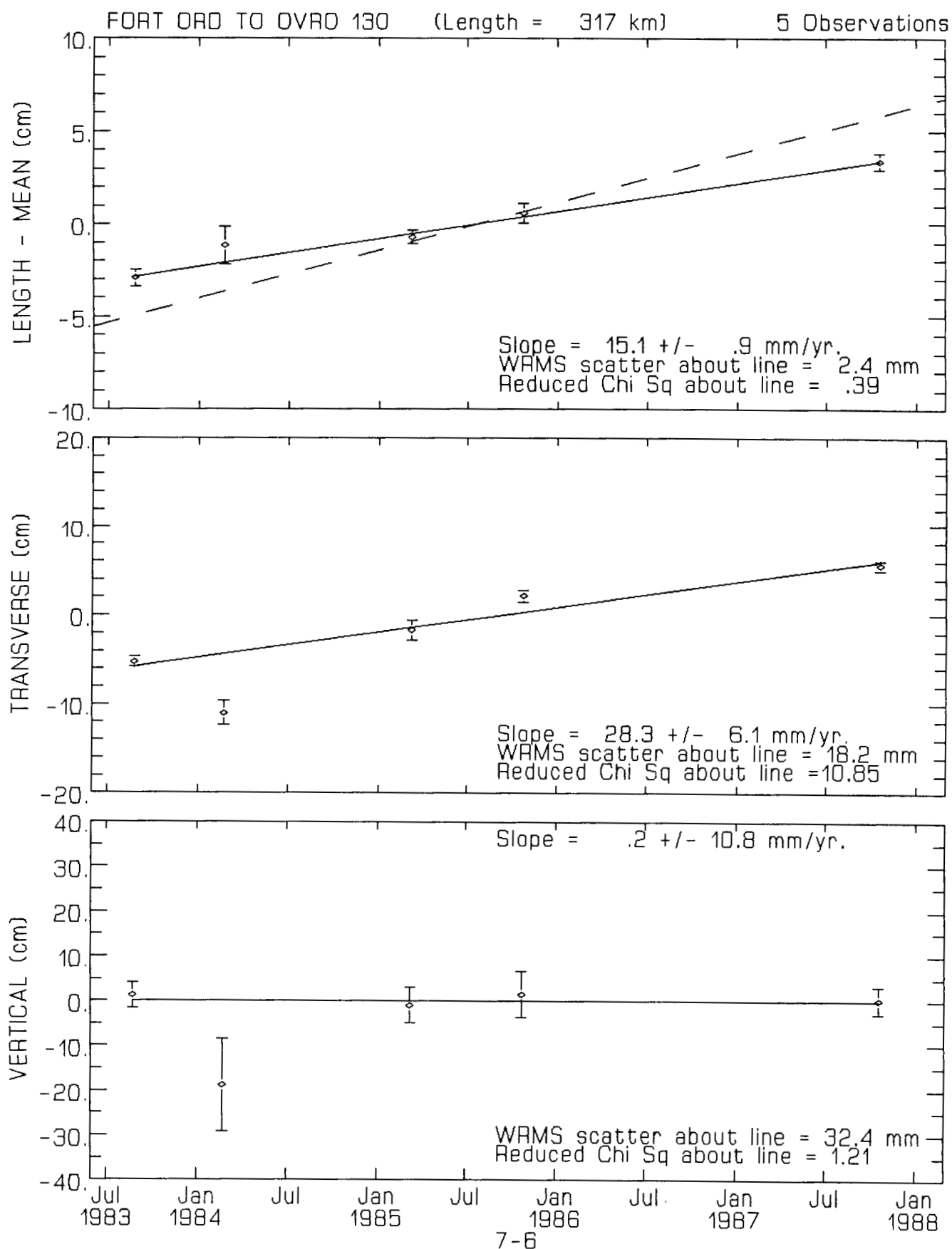


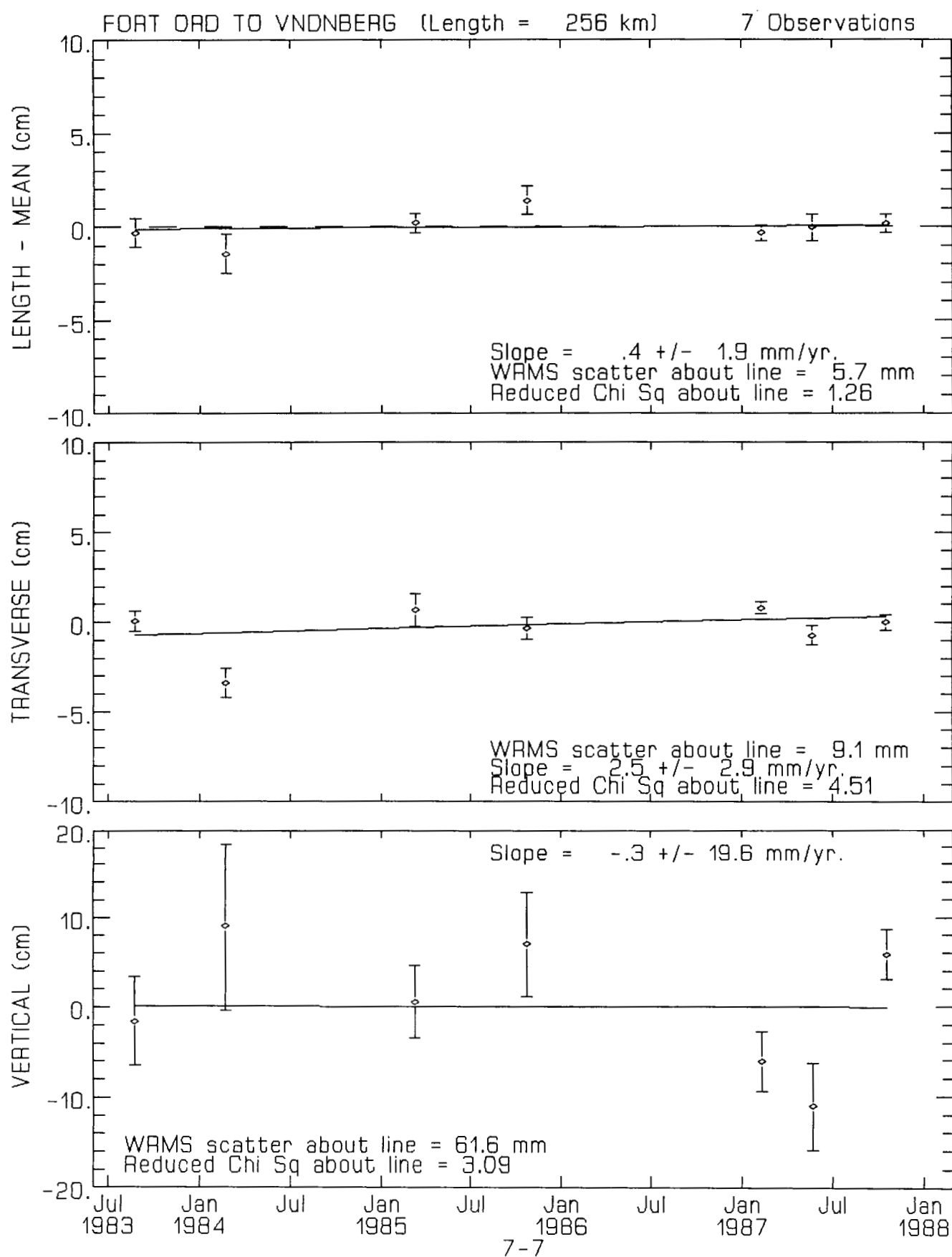
FORT ORD TO HATCREEK (Length = 461 km)

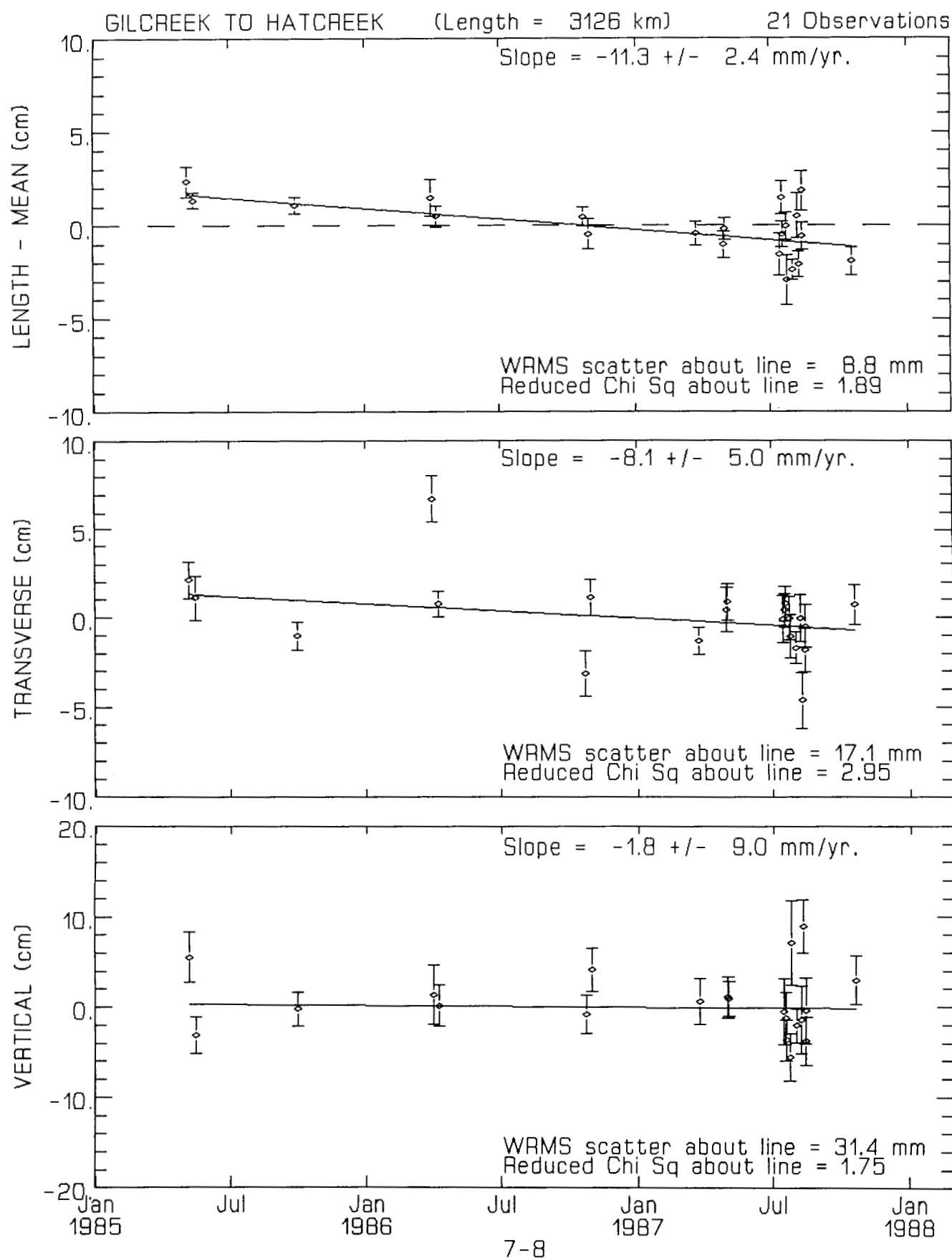
6 Observations

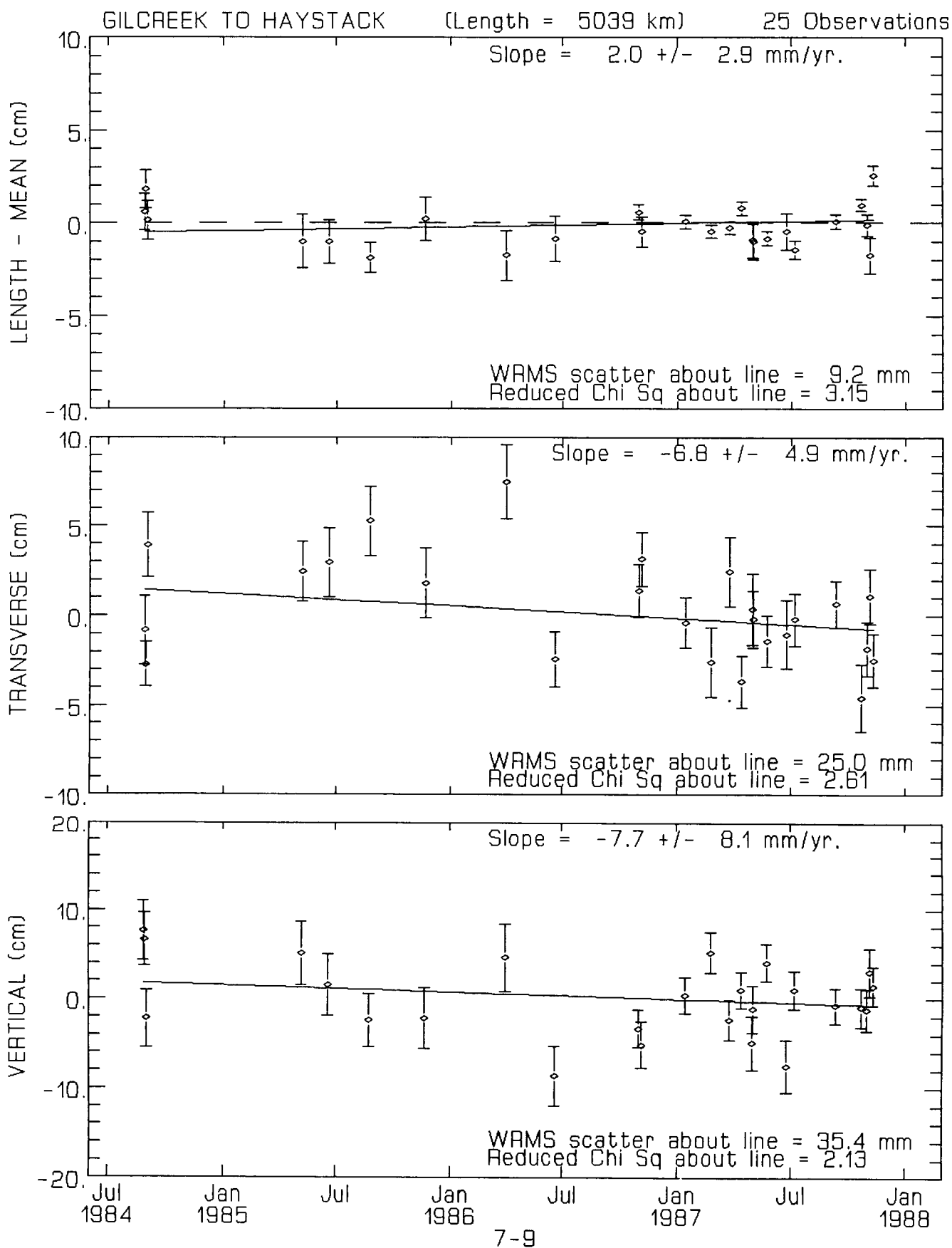


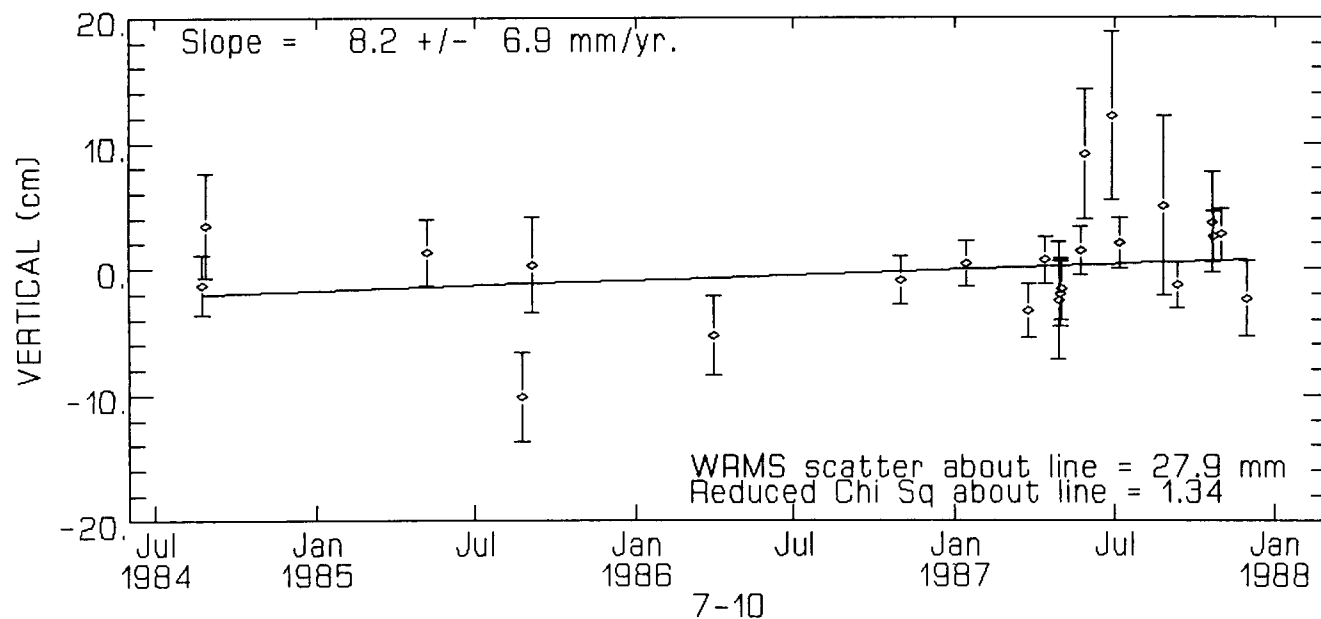
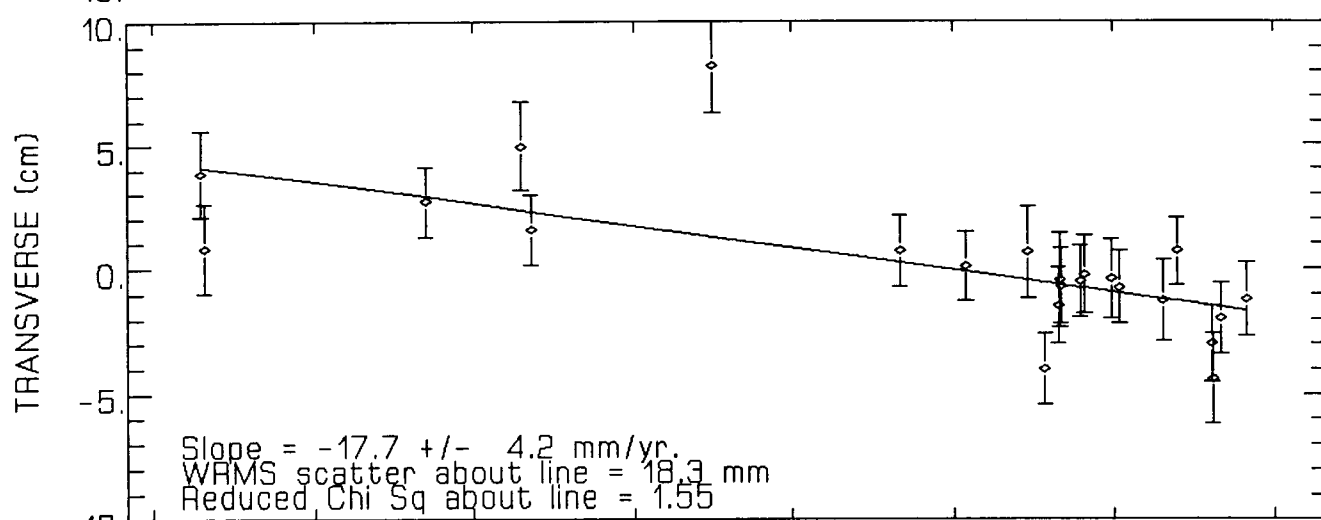
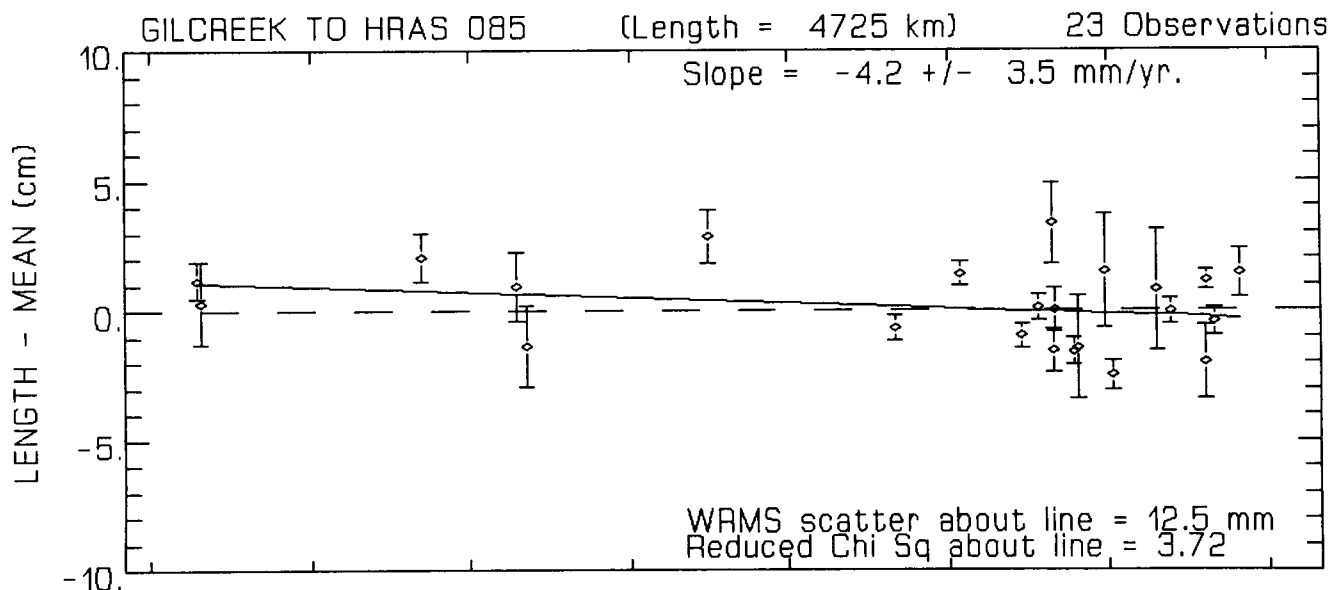


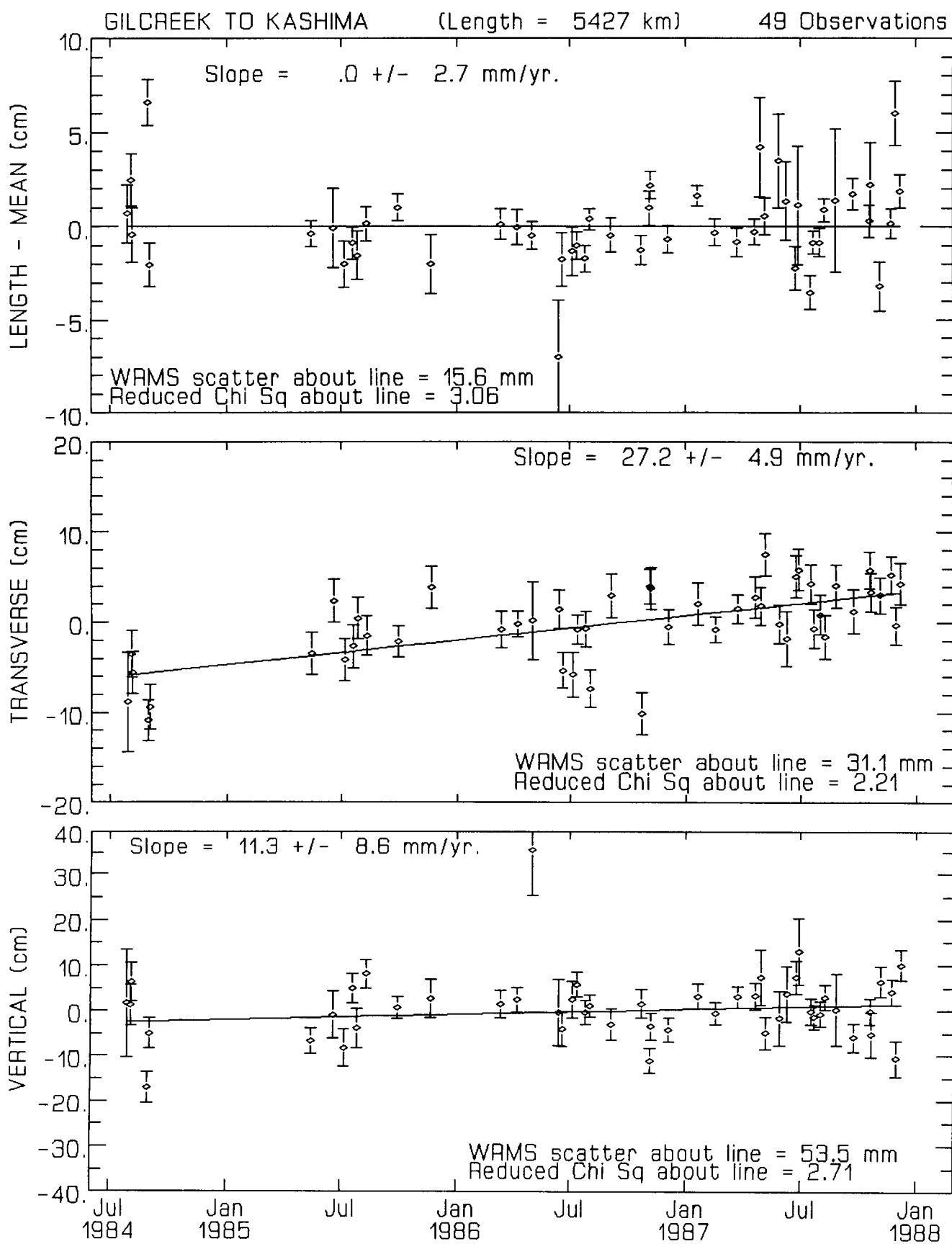


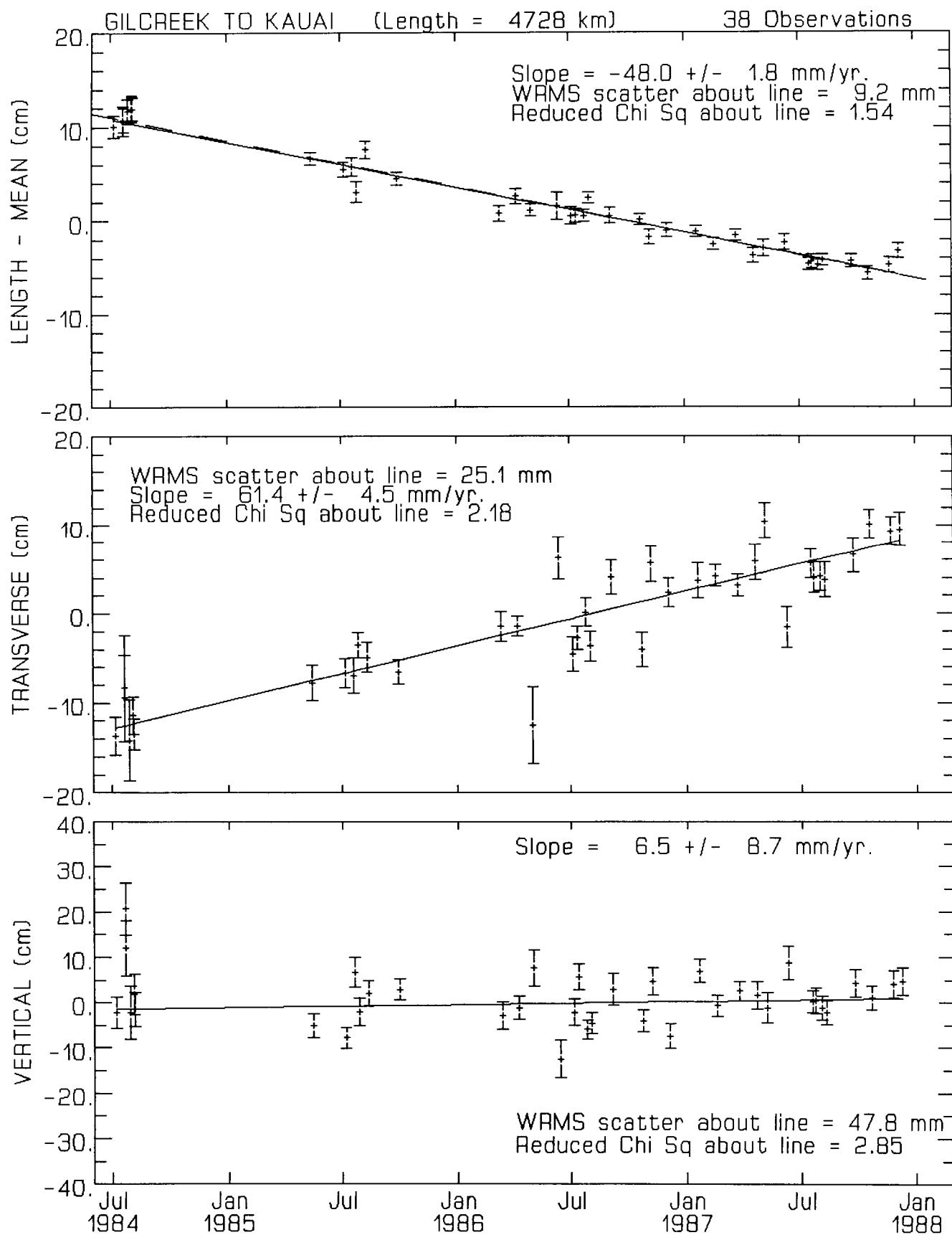








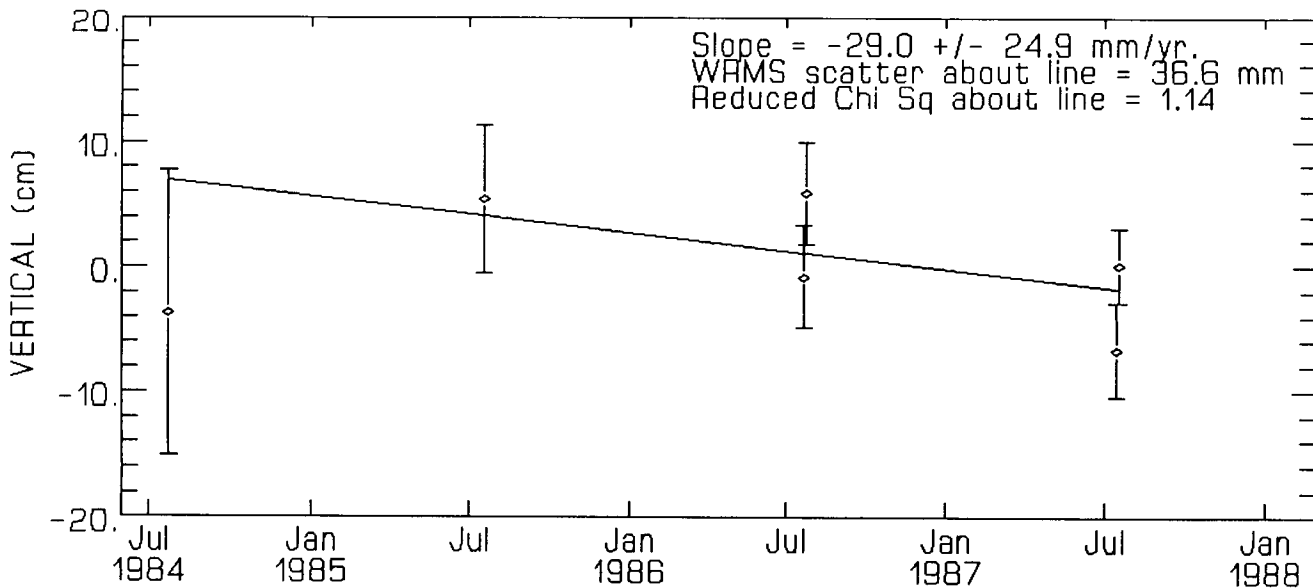
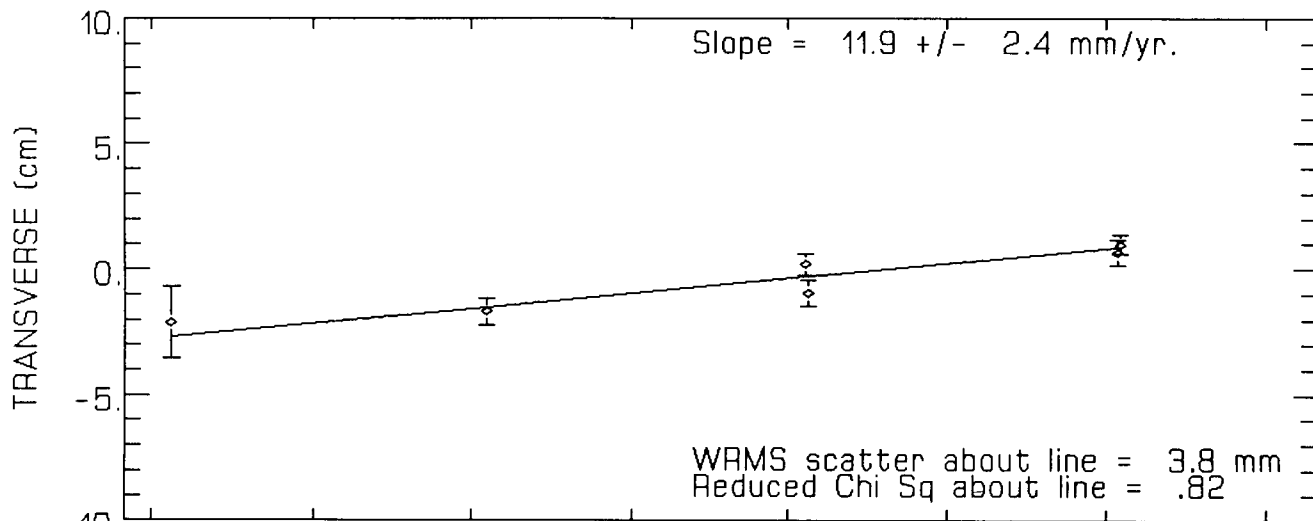
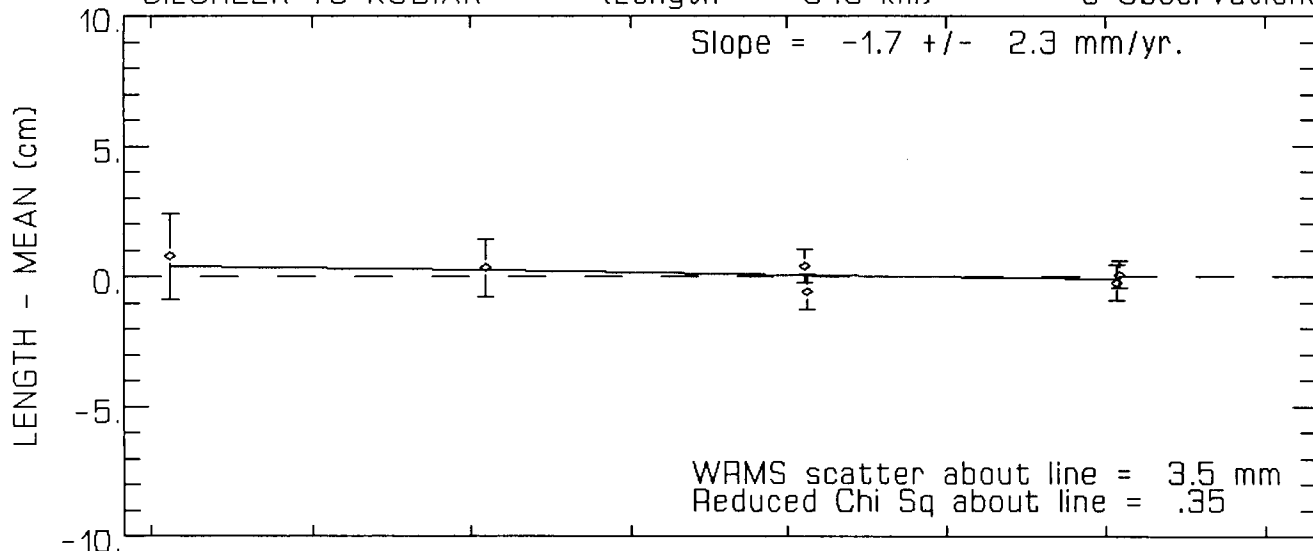




GILCREEK TO KODIAK

(Length = 848 km)

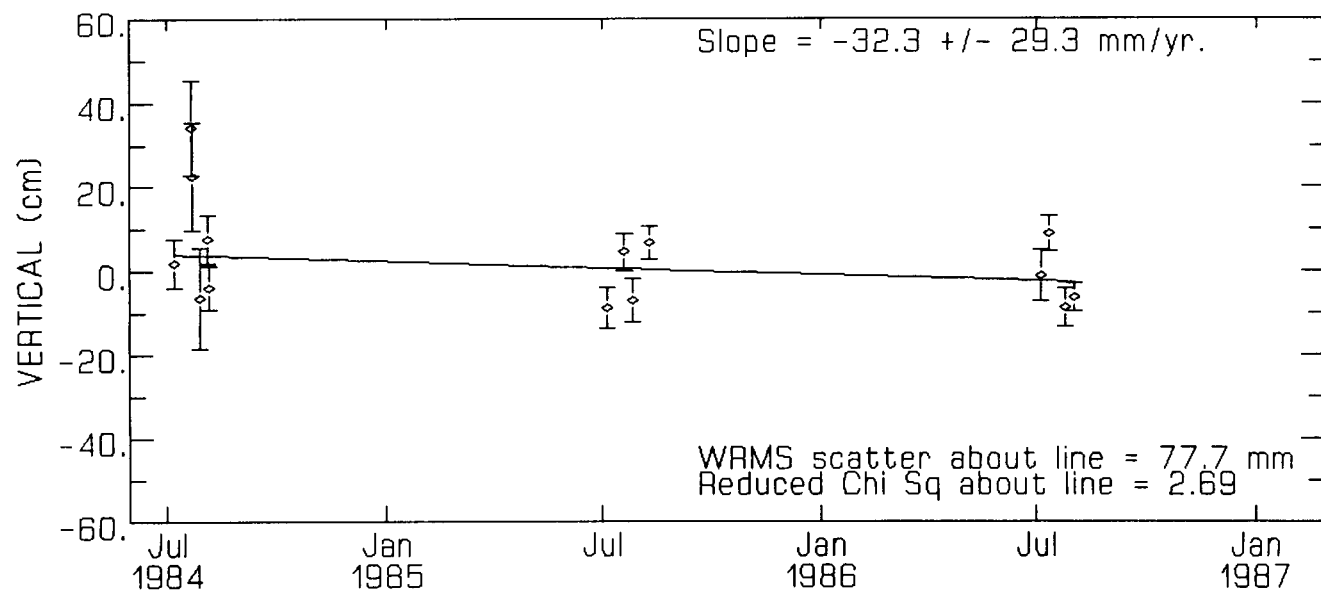
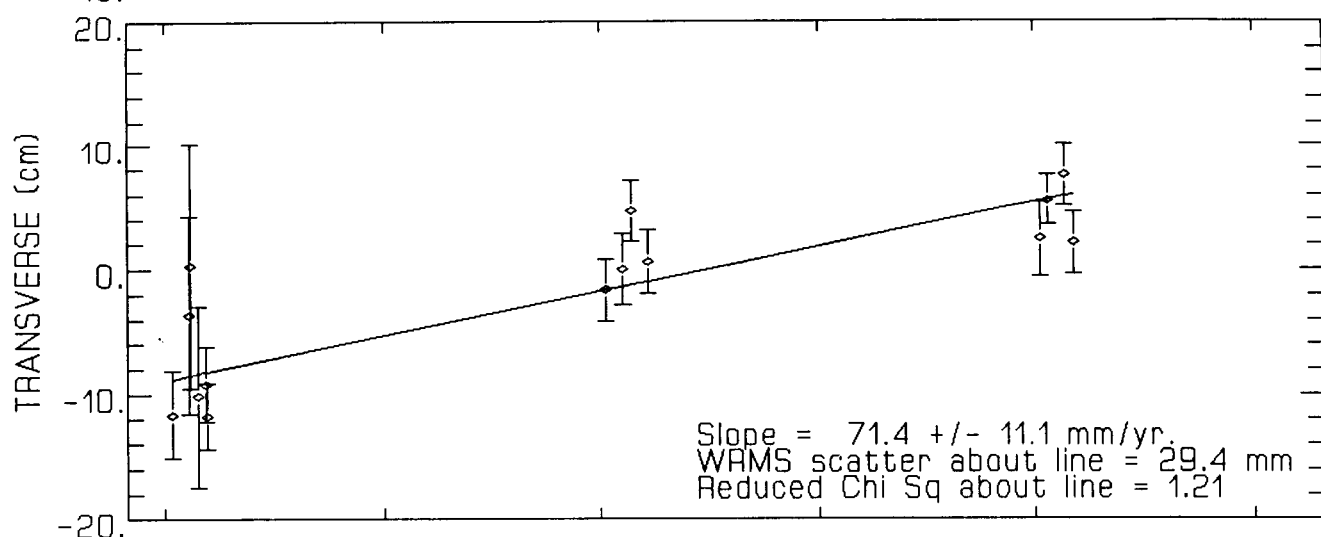
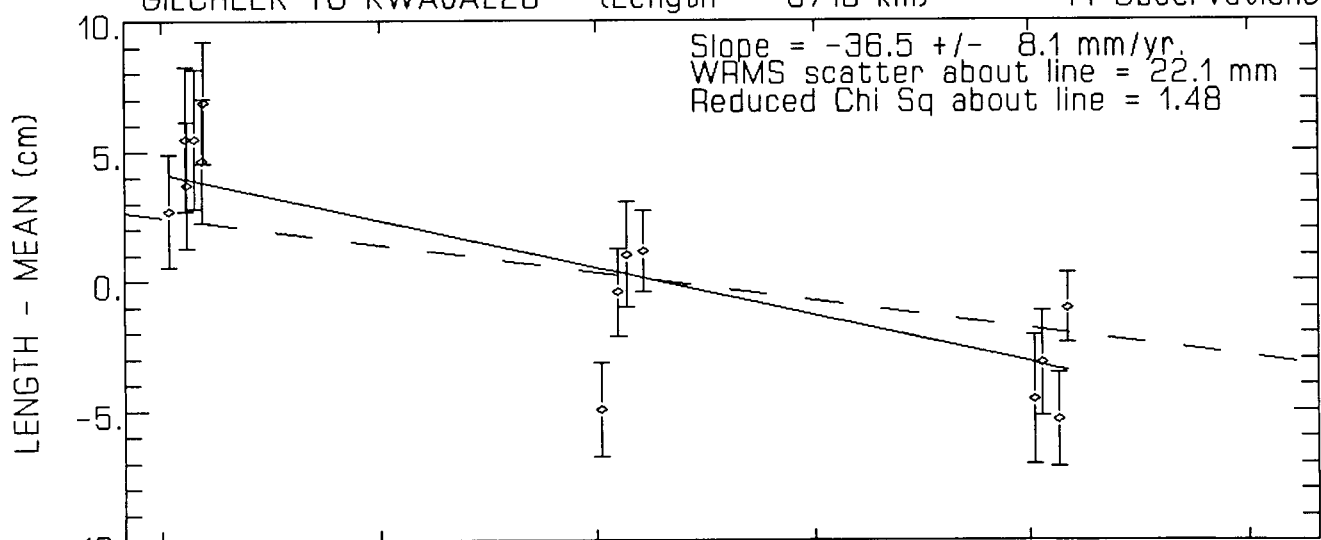
6 Observations

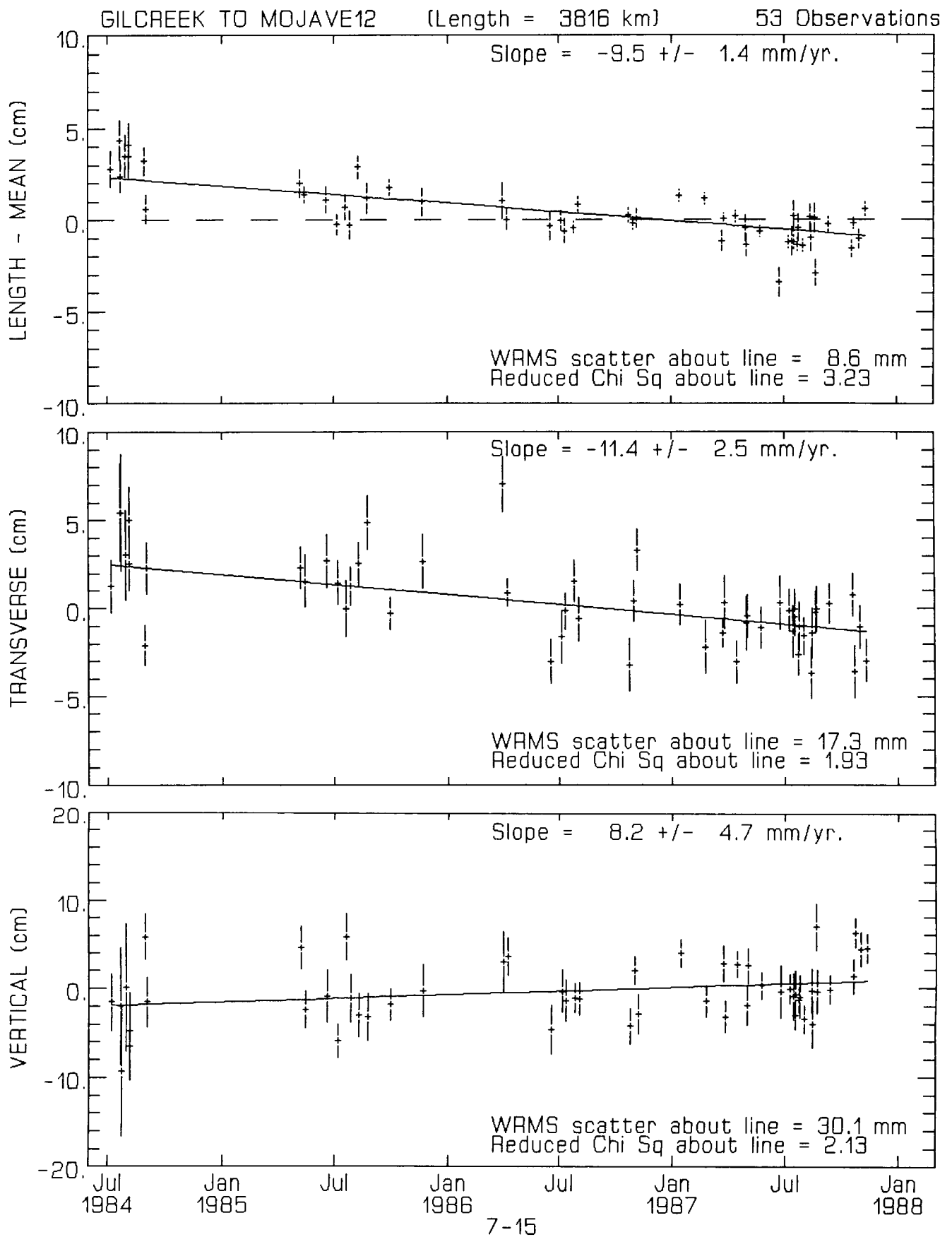


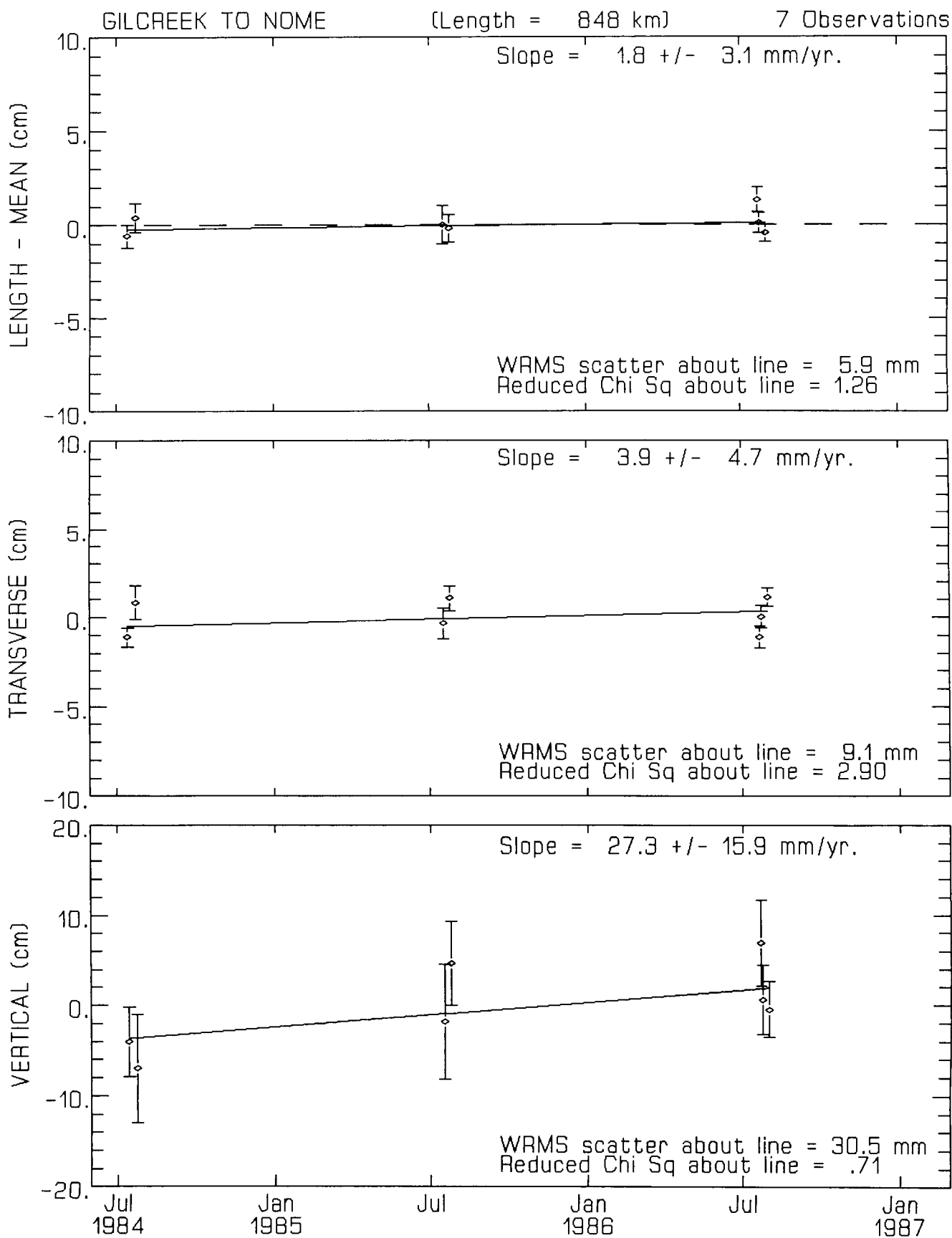
GILCREEK TO KWAJAL26

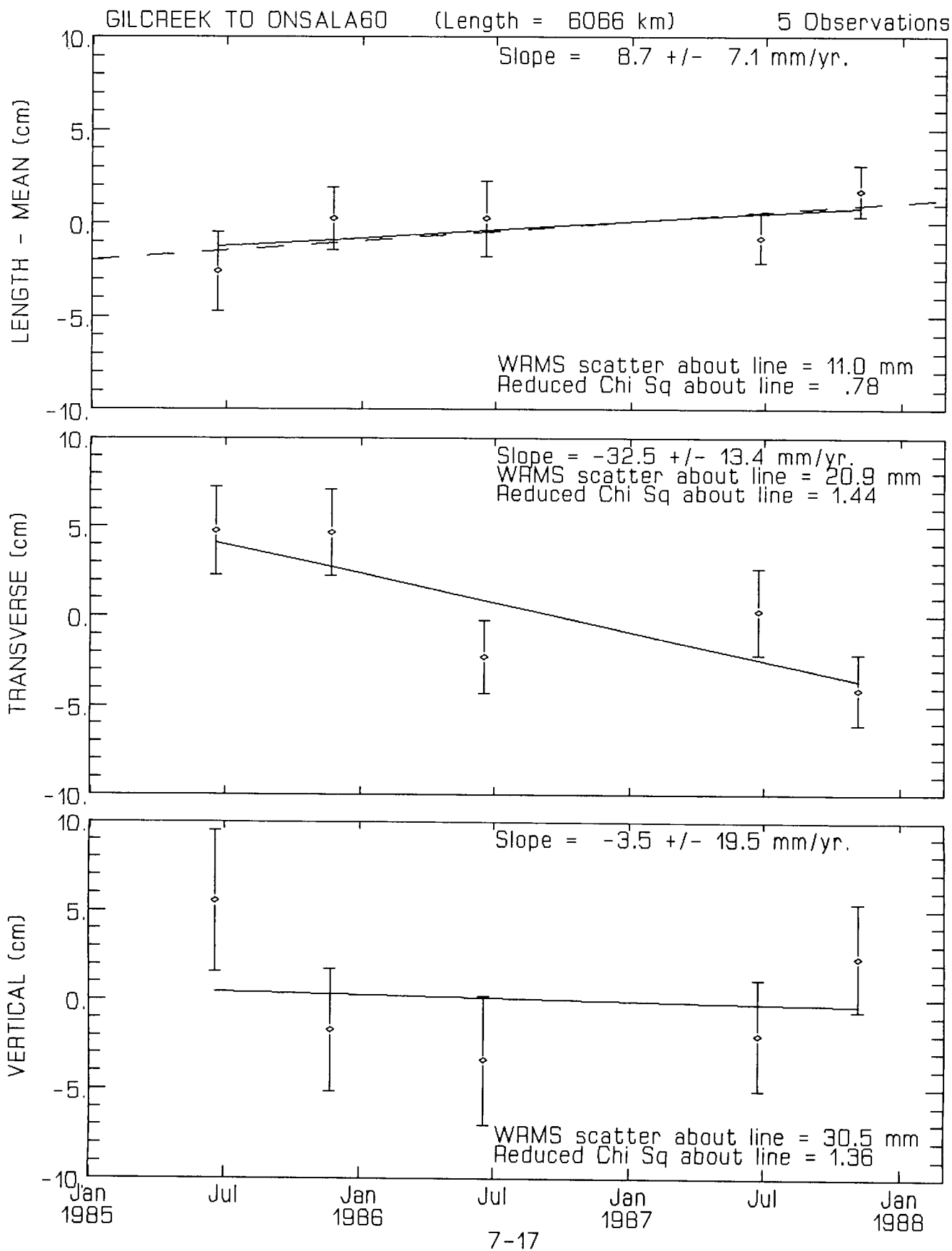
(Length = 6719 km)

14 Observations





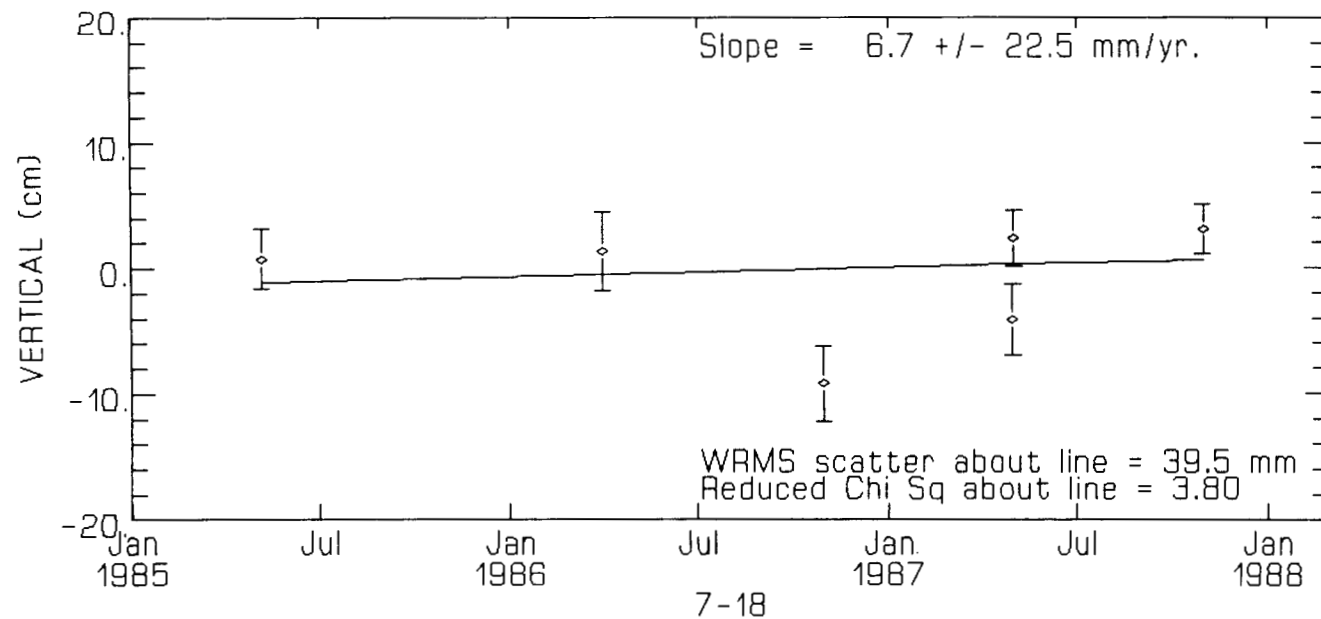
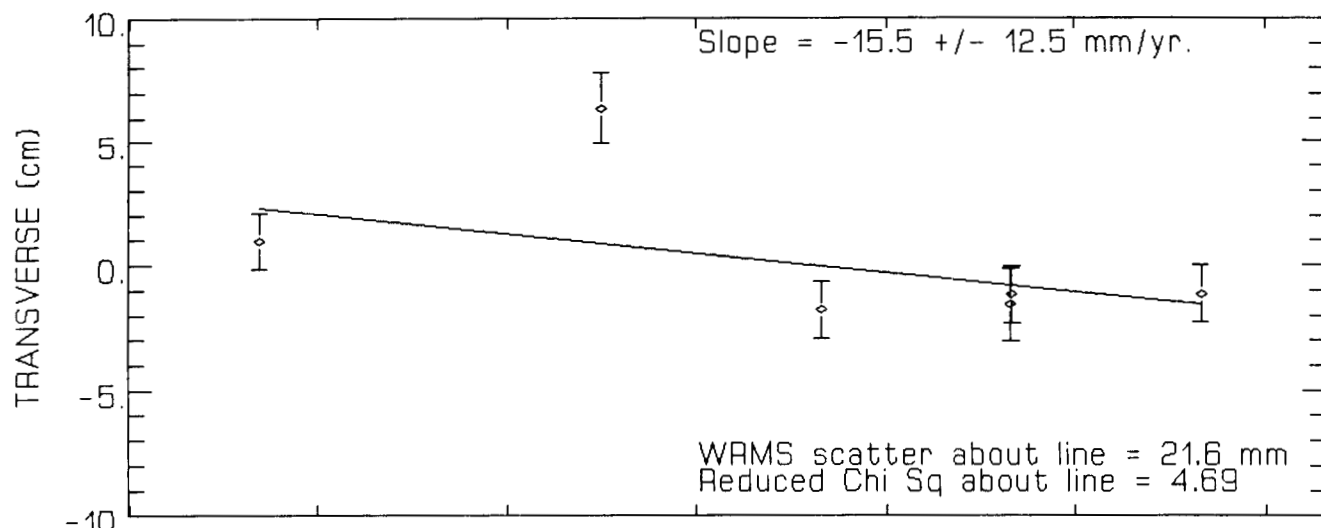
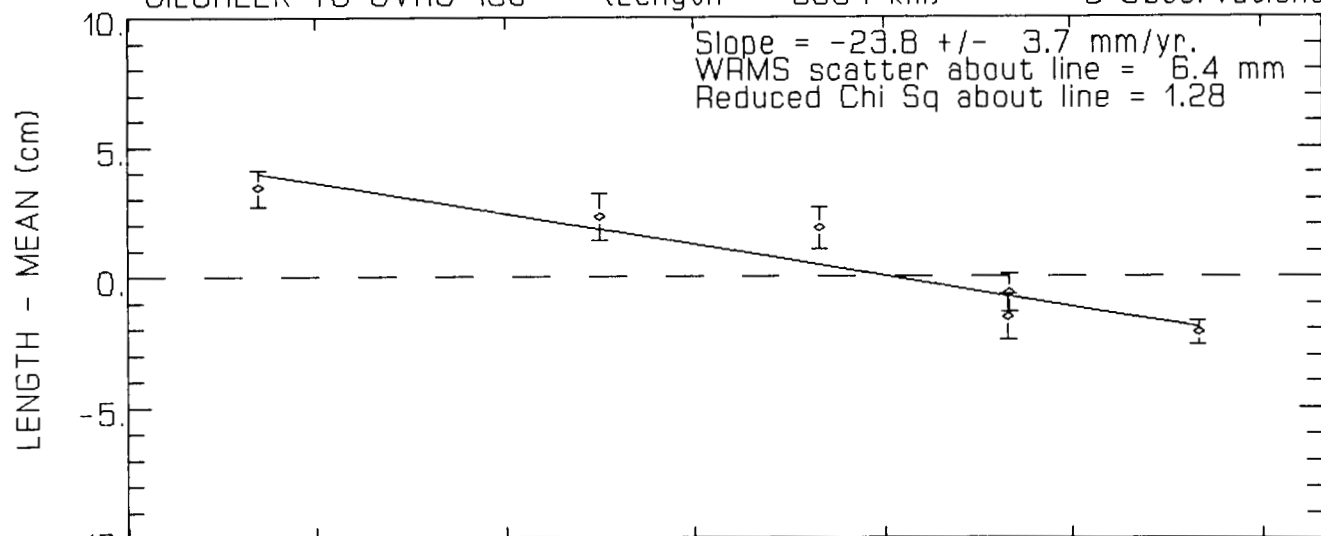


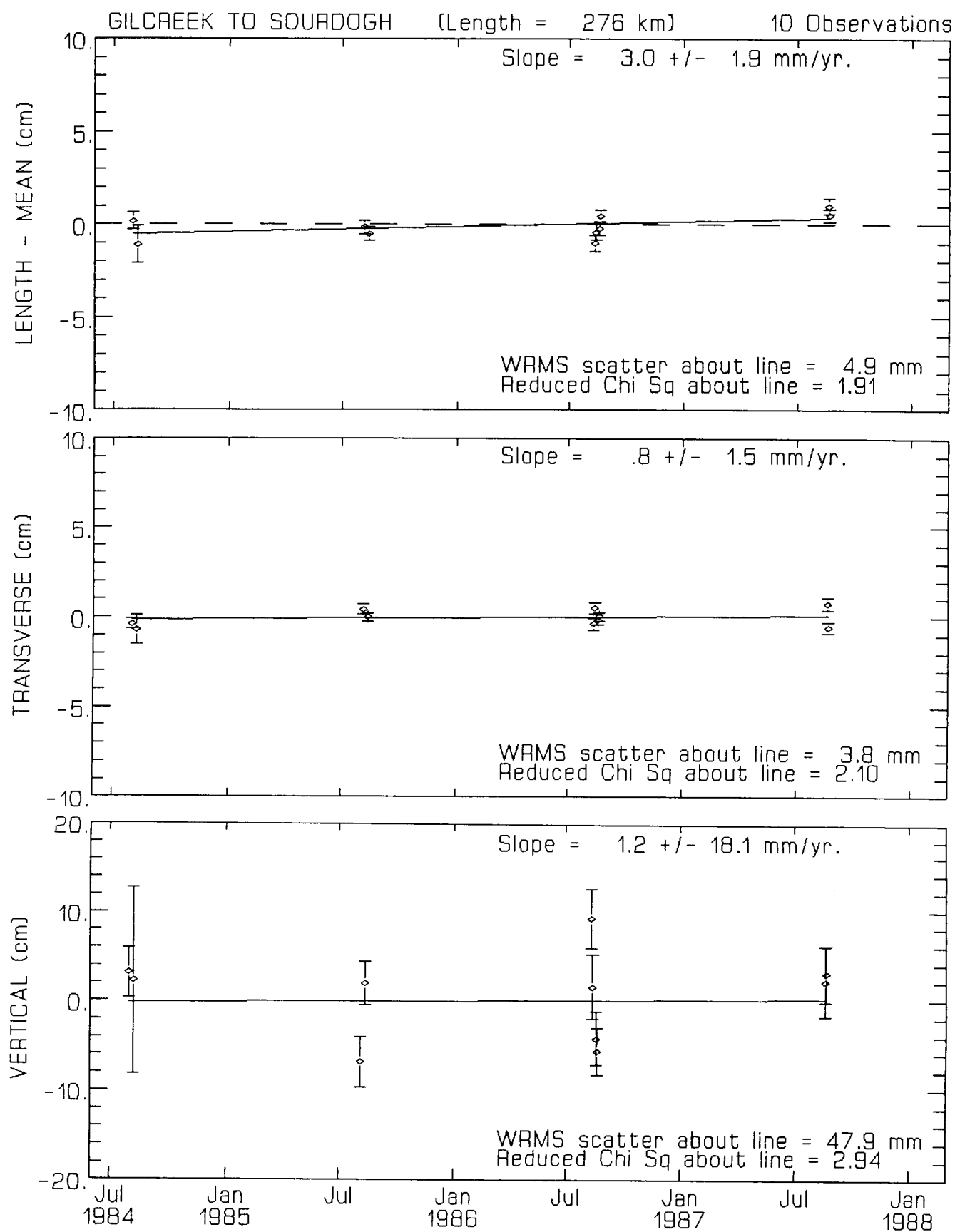


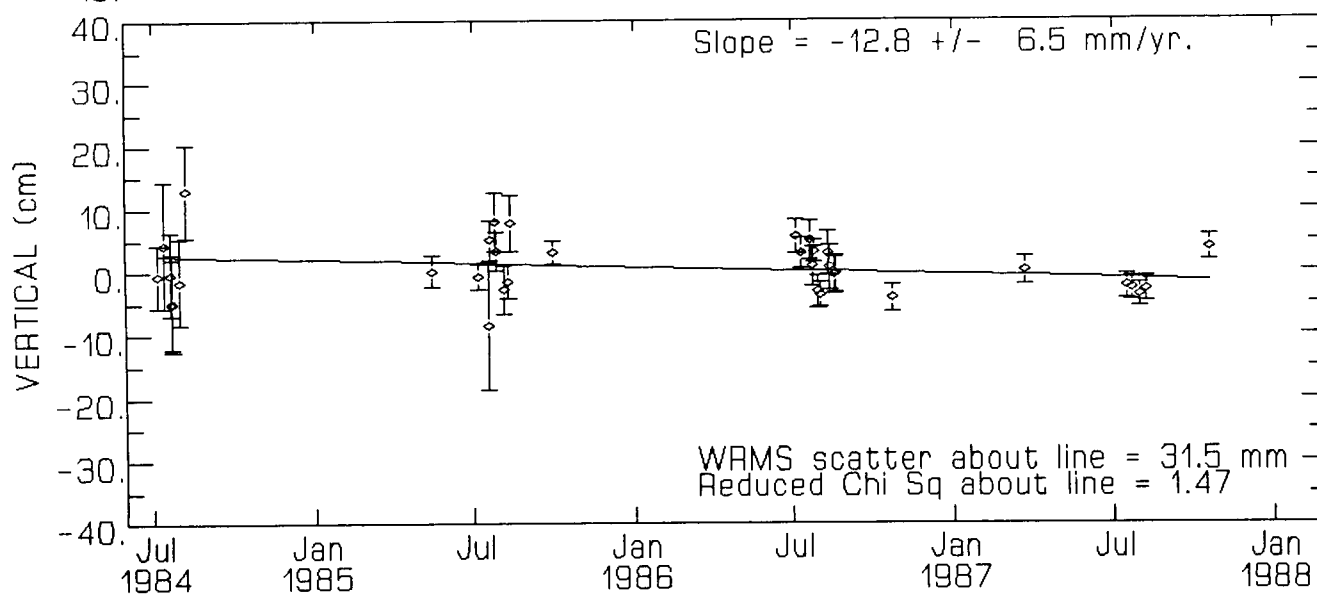
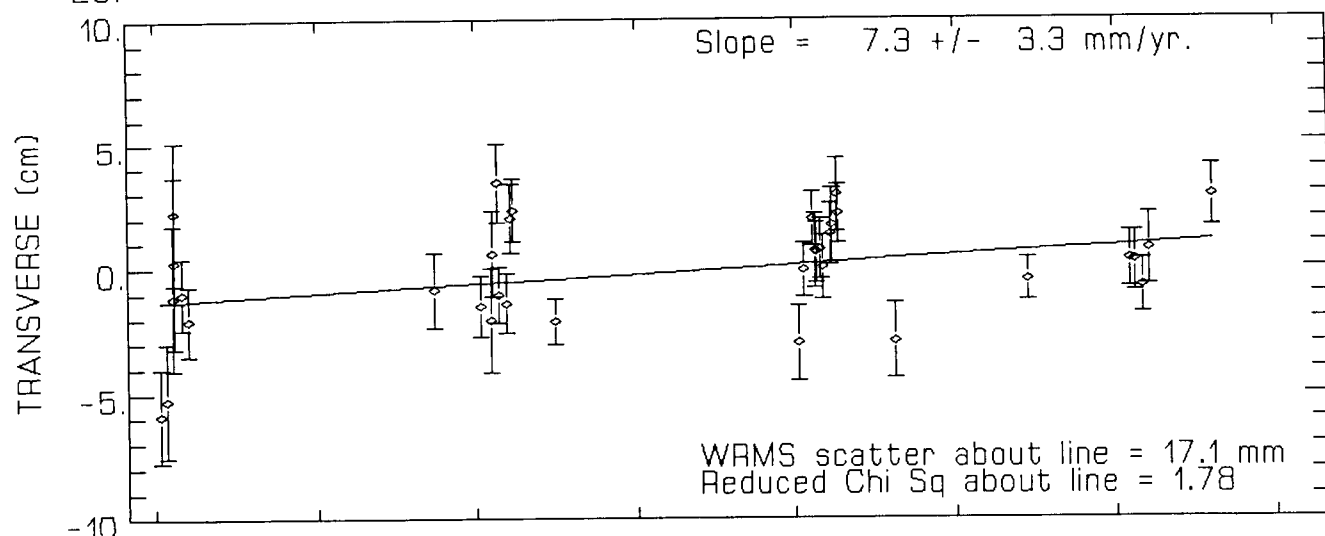
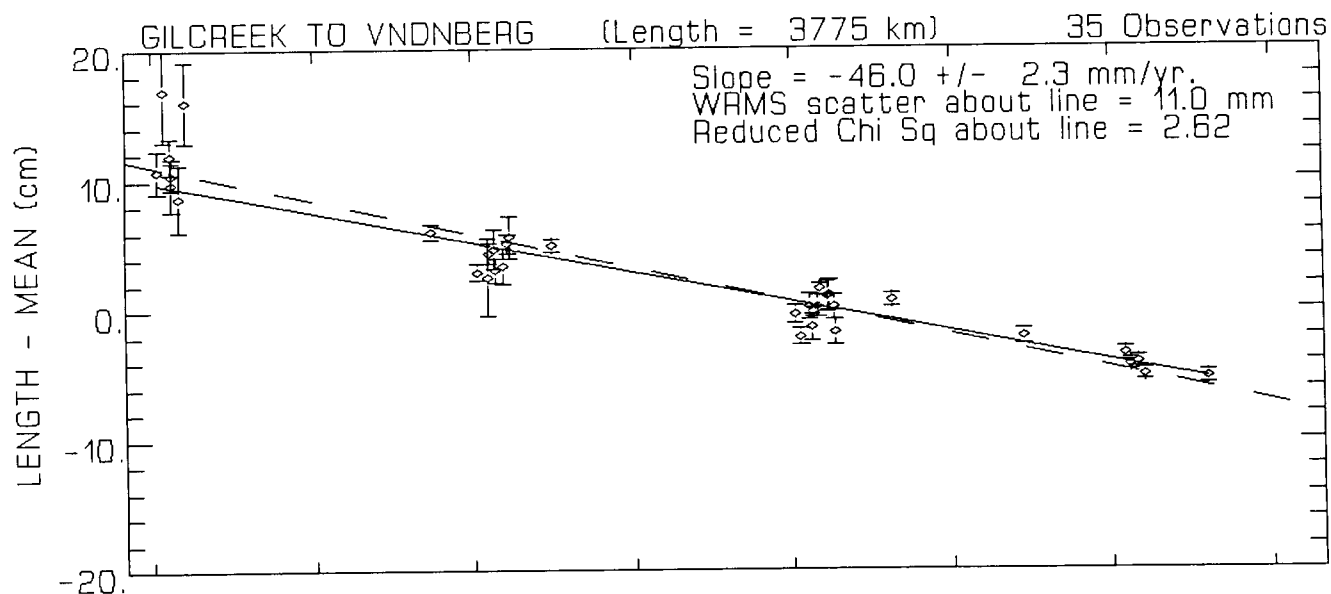
GILCREEK TO DVRO 130

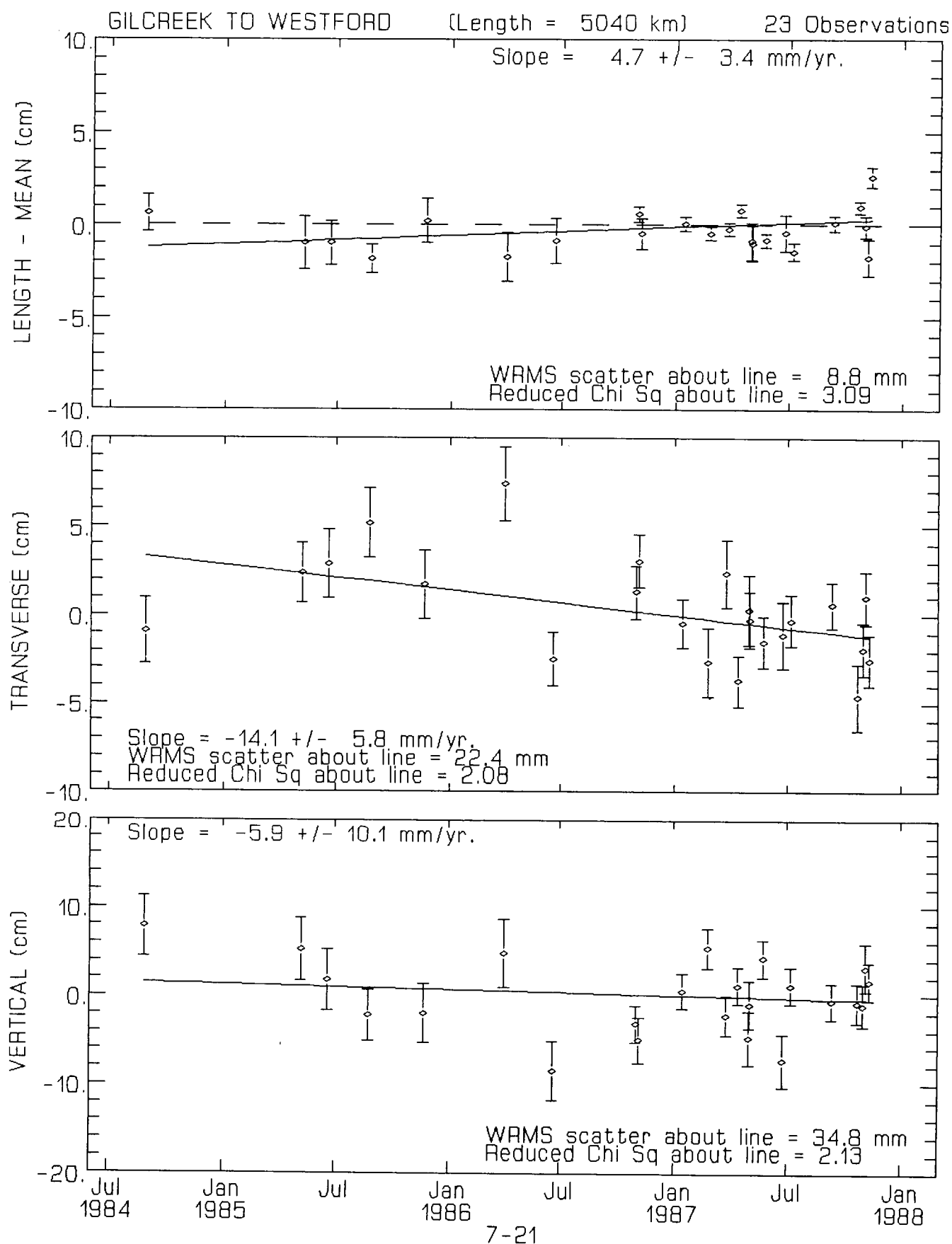
(Length = 3584 km)

6 Observations

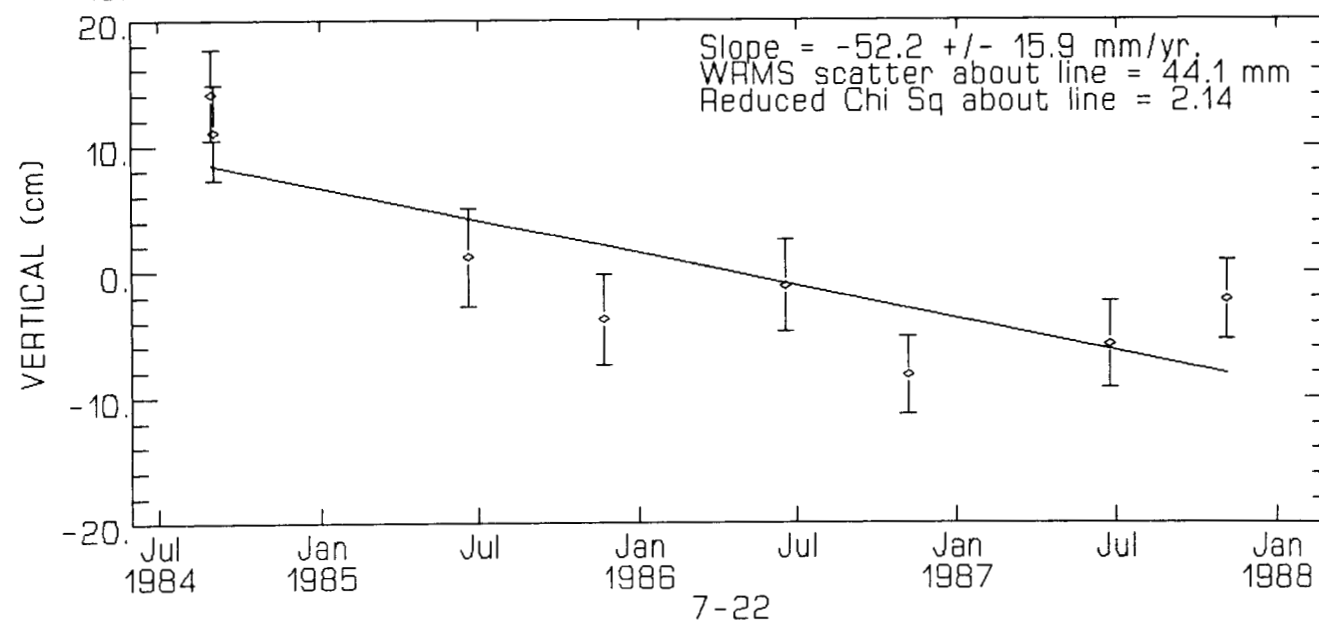
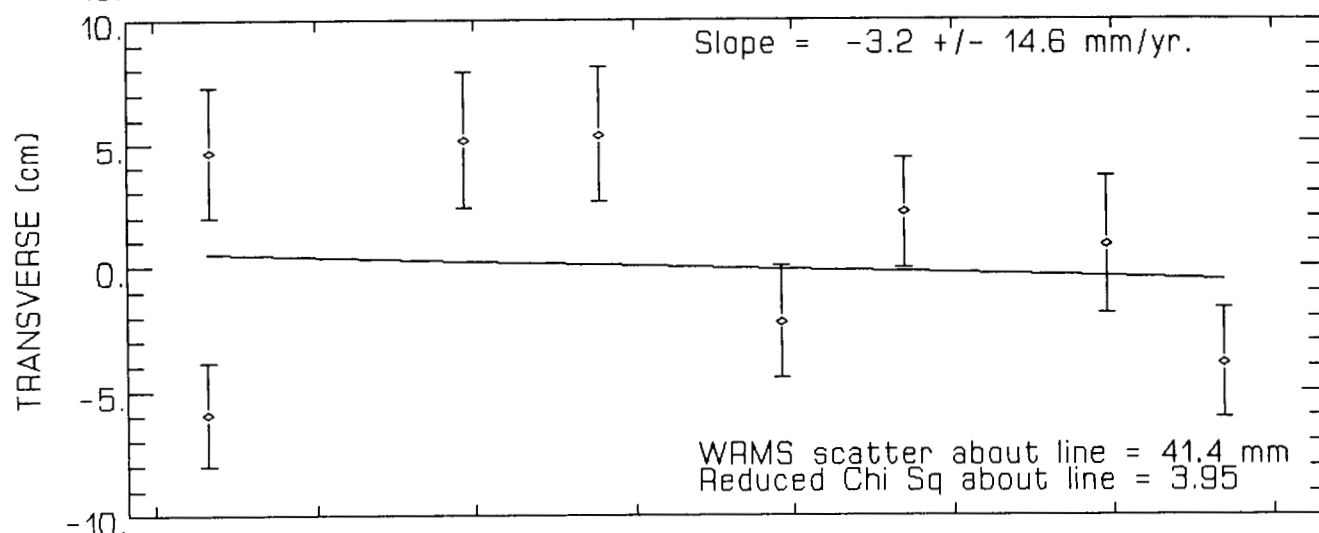
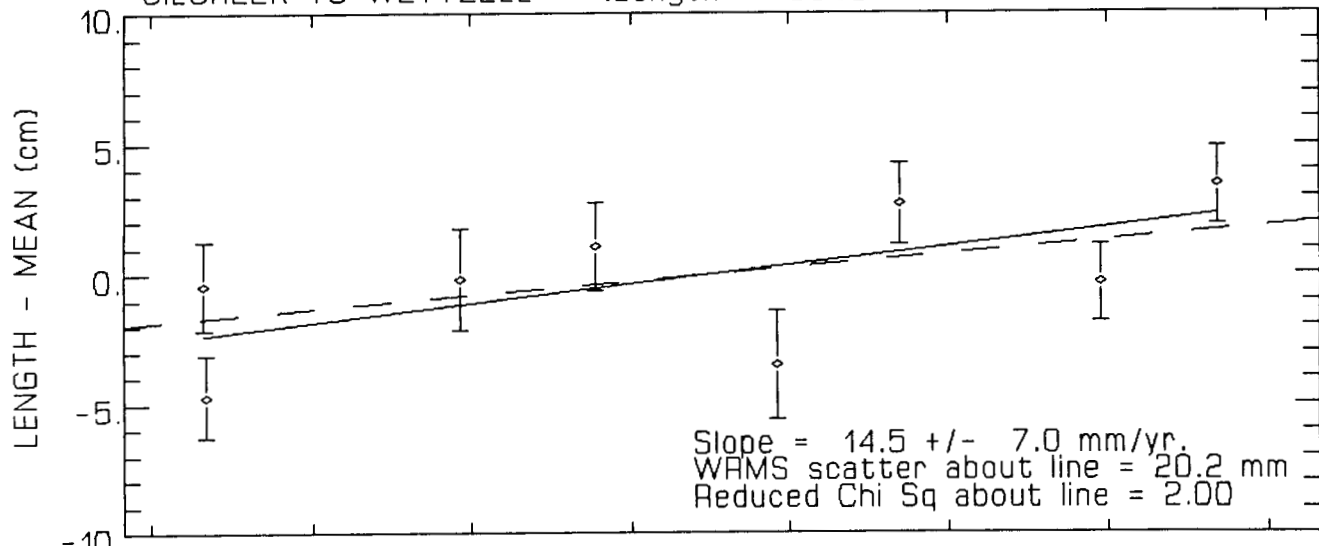


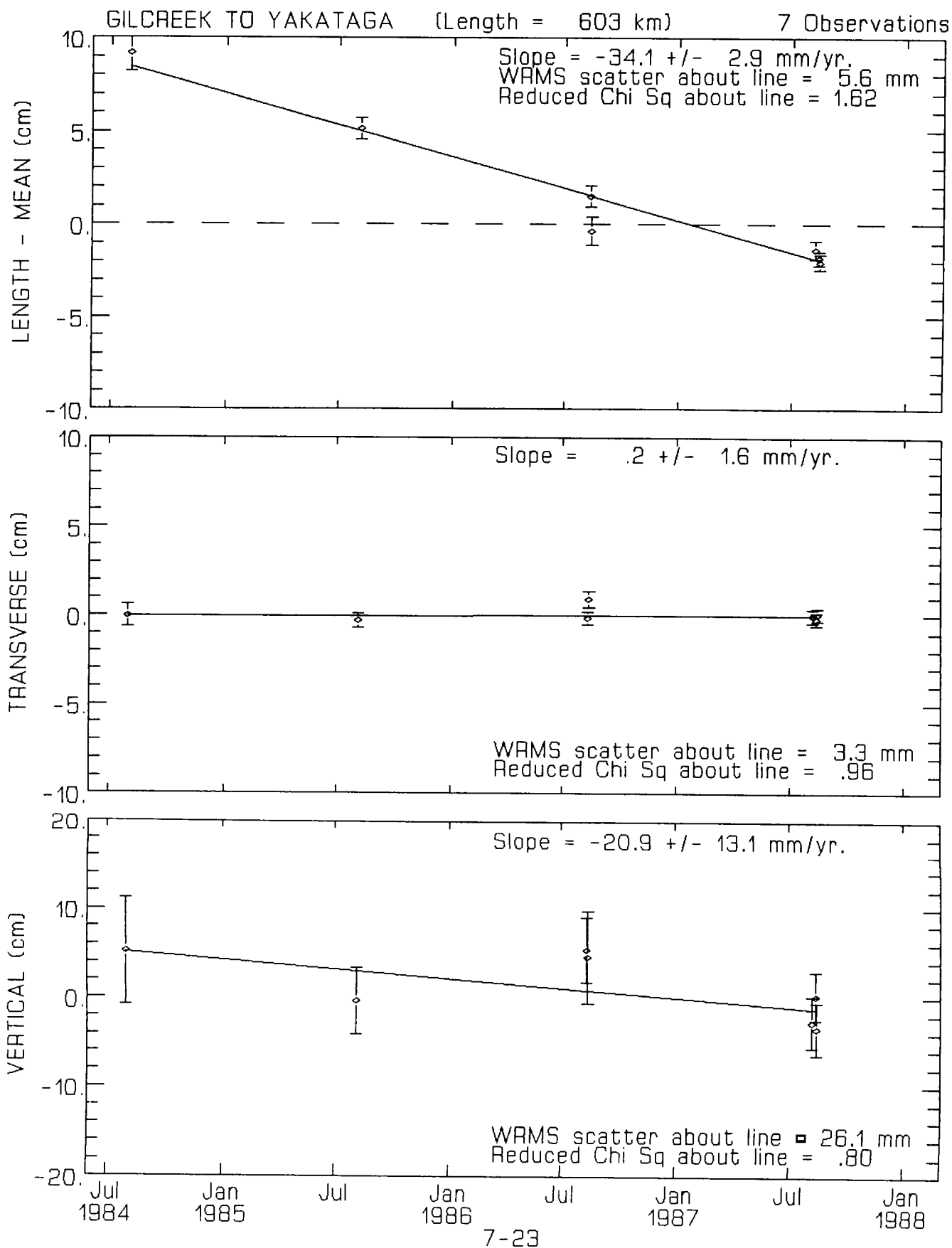




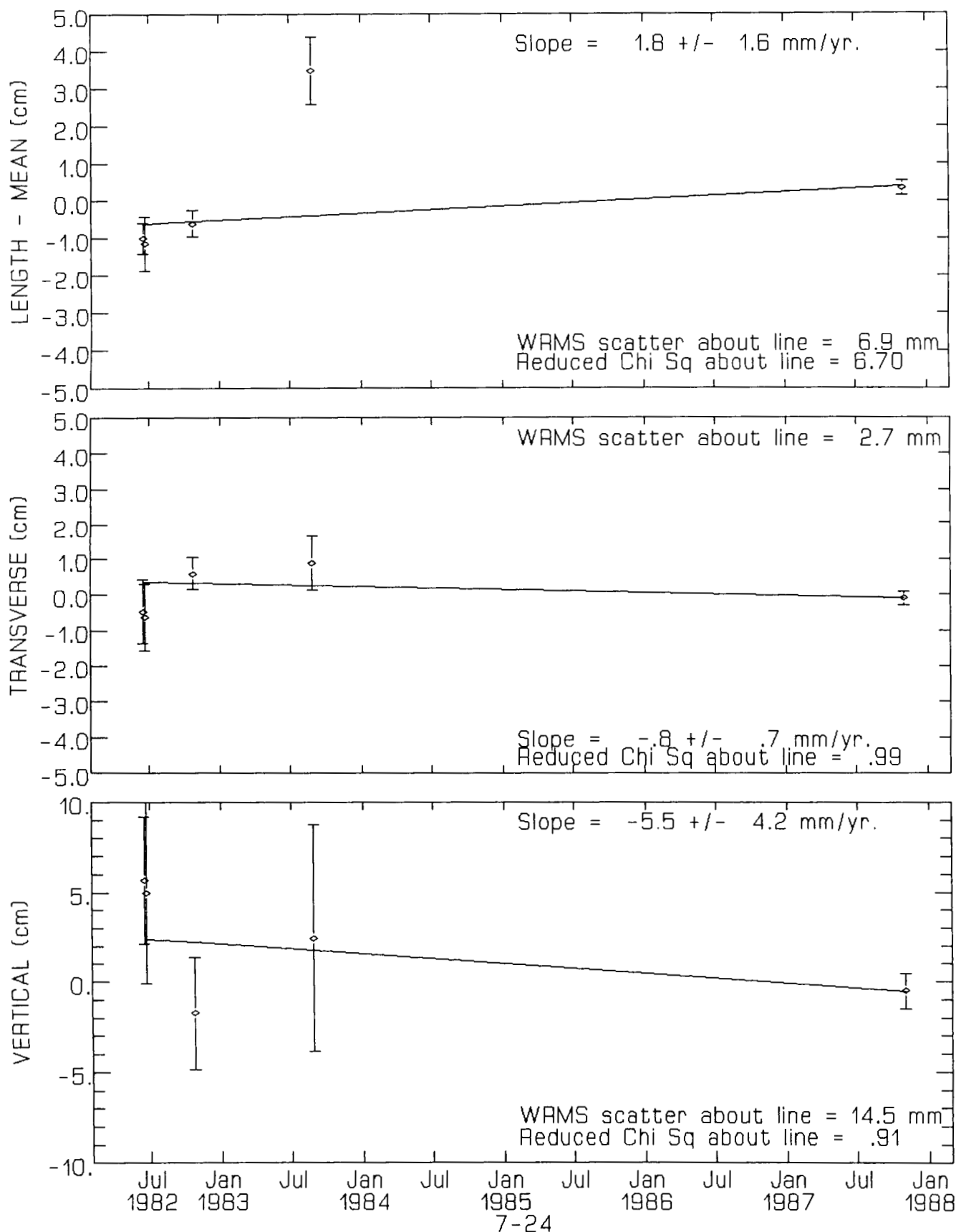


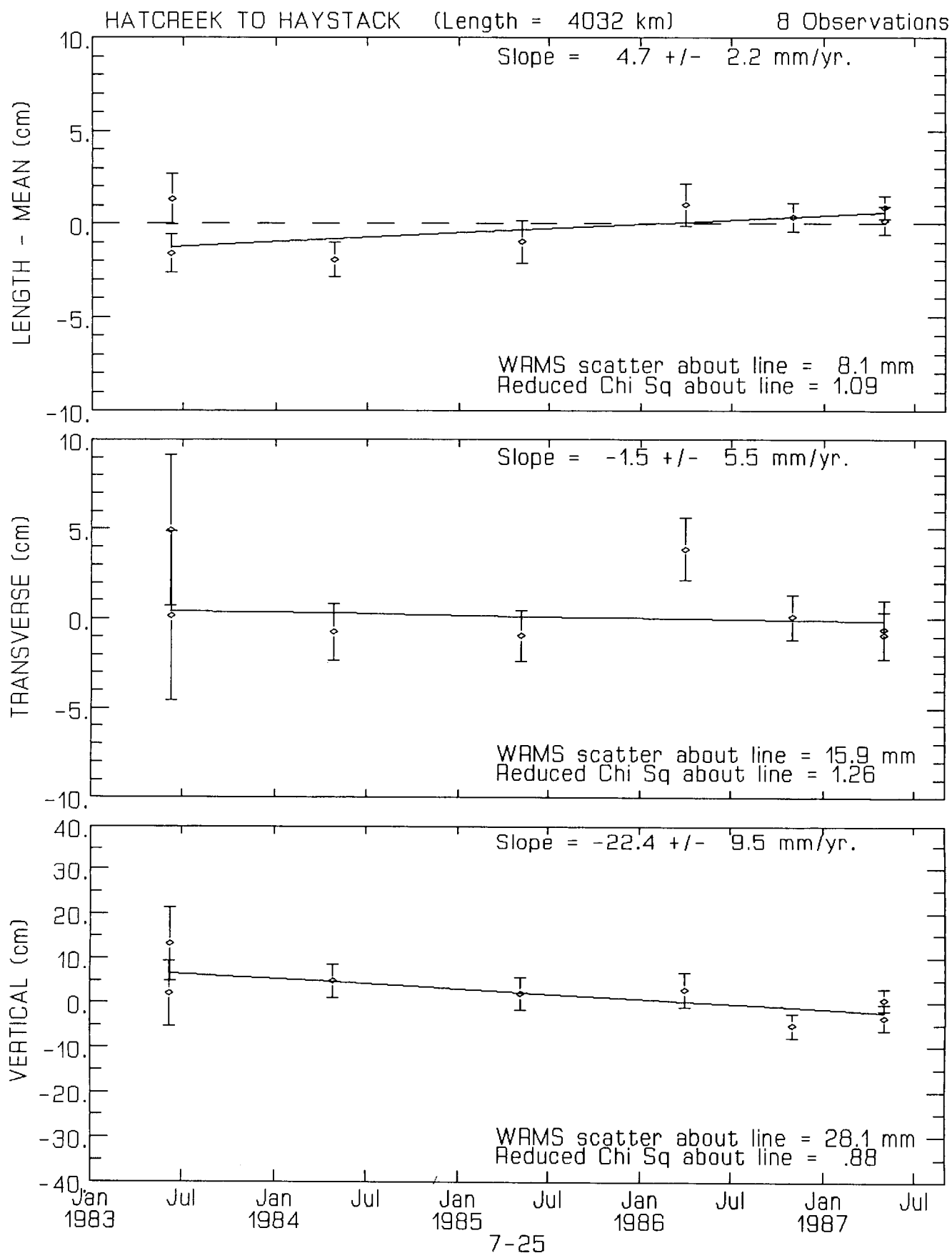
GILCREEK TO WETTZELL (Length = 6856 km) 8 Observations





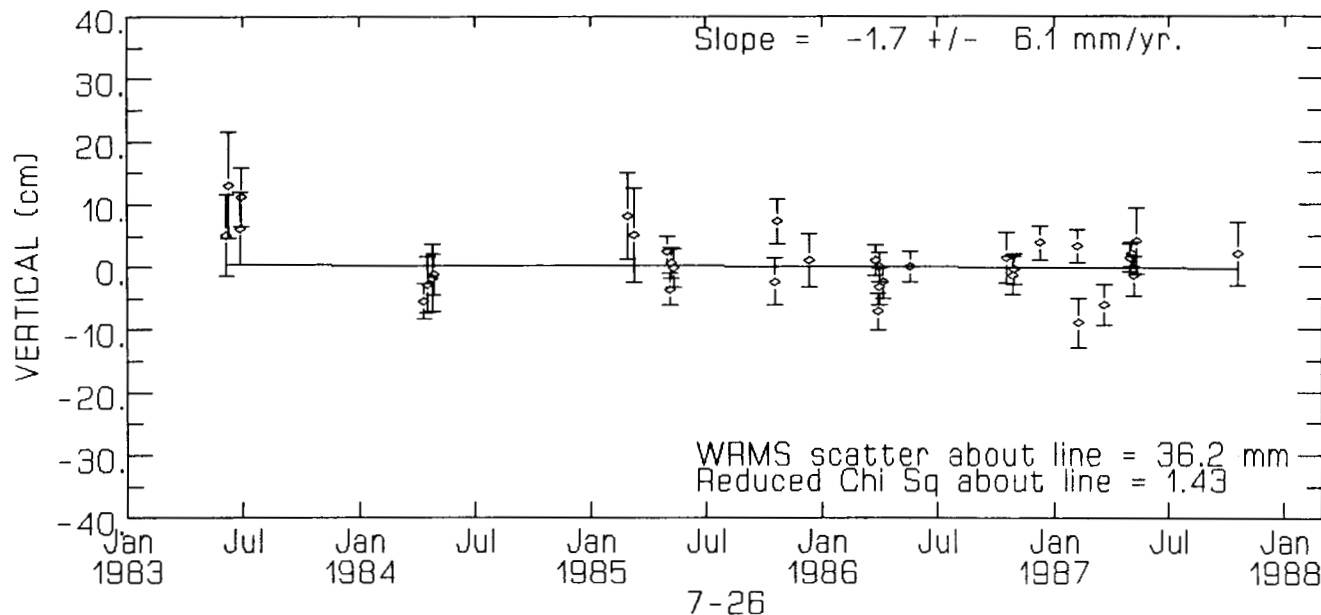
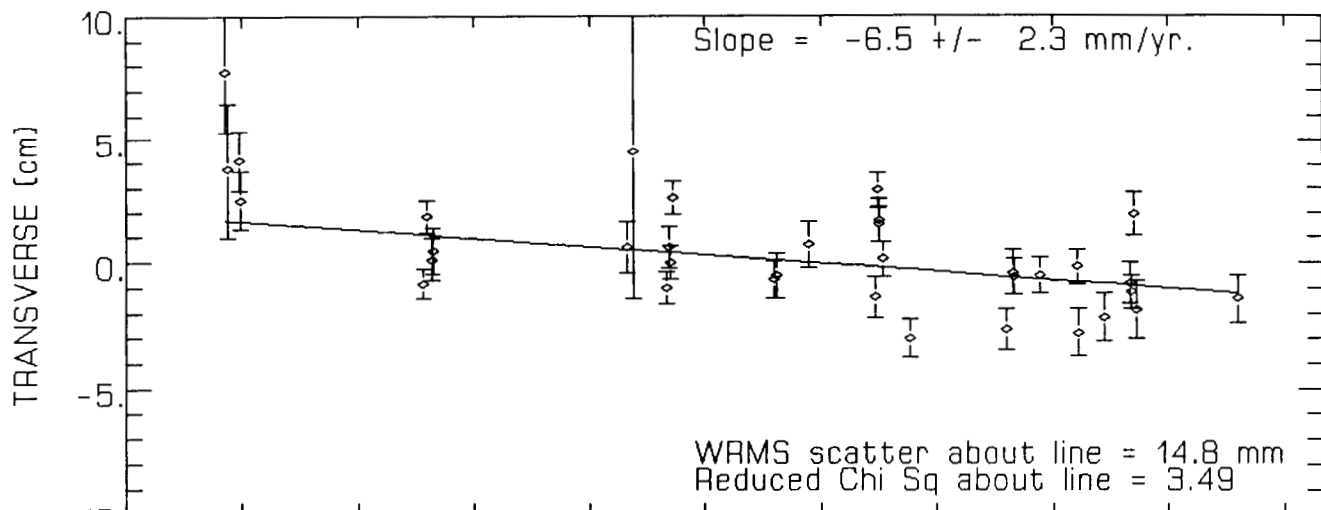
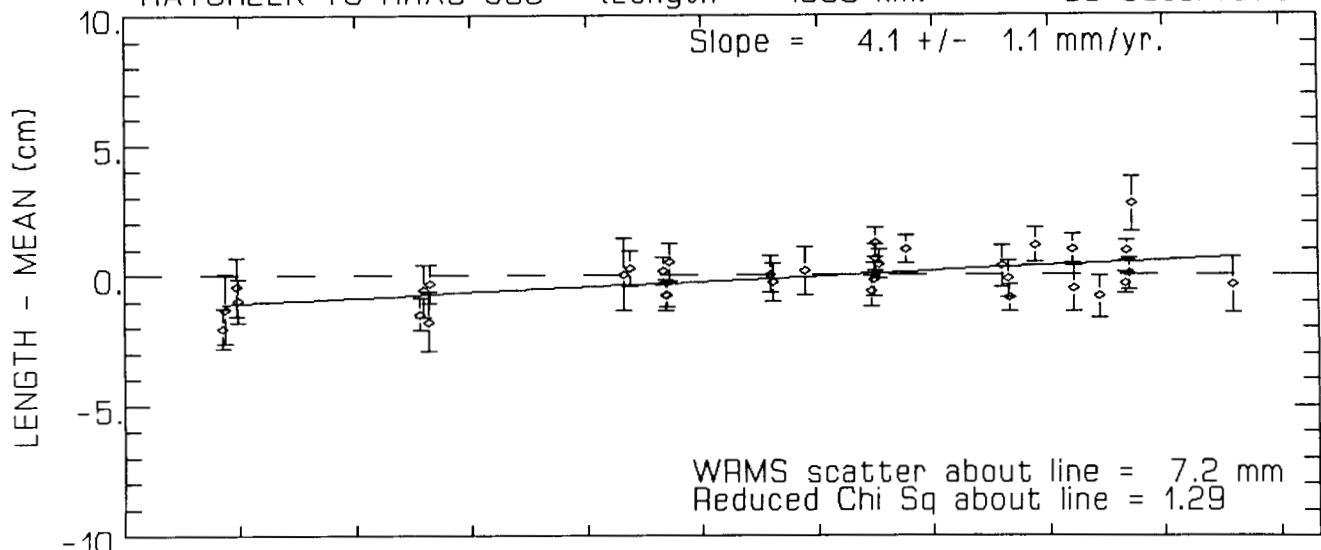
GOLDVENU TO OVRO 130 (Length = 257 km) 5 Observations

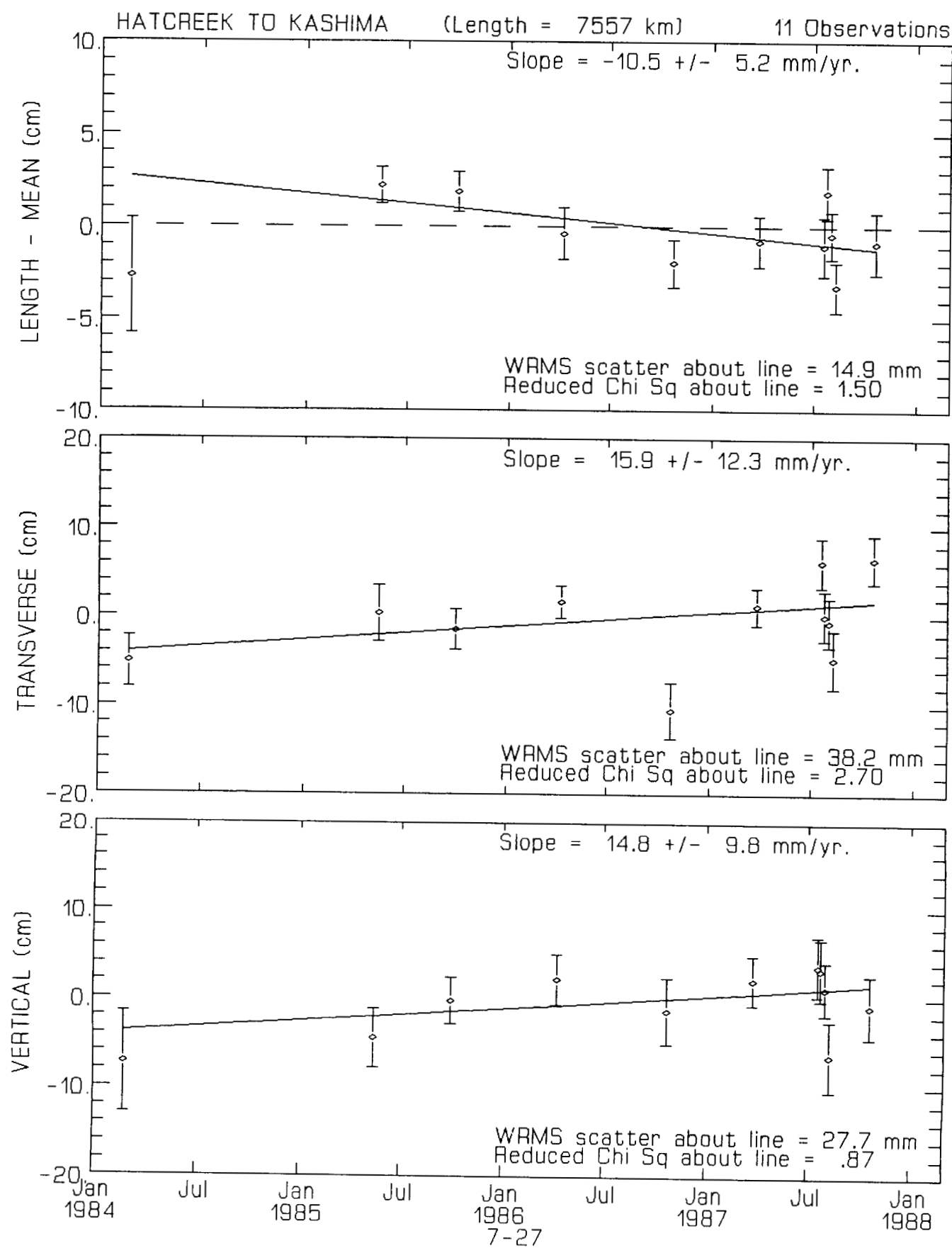


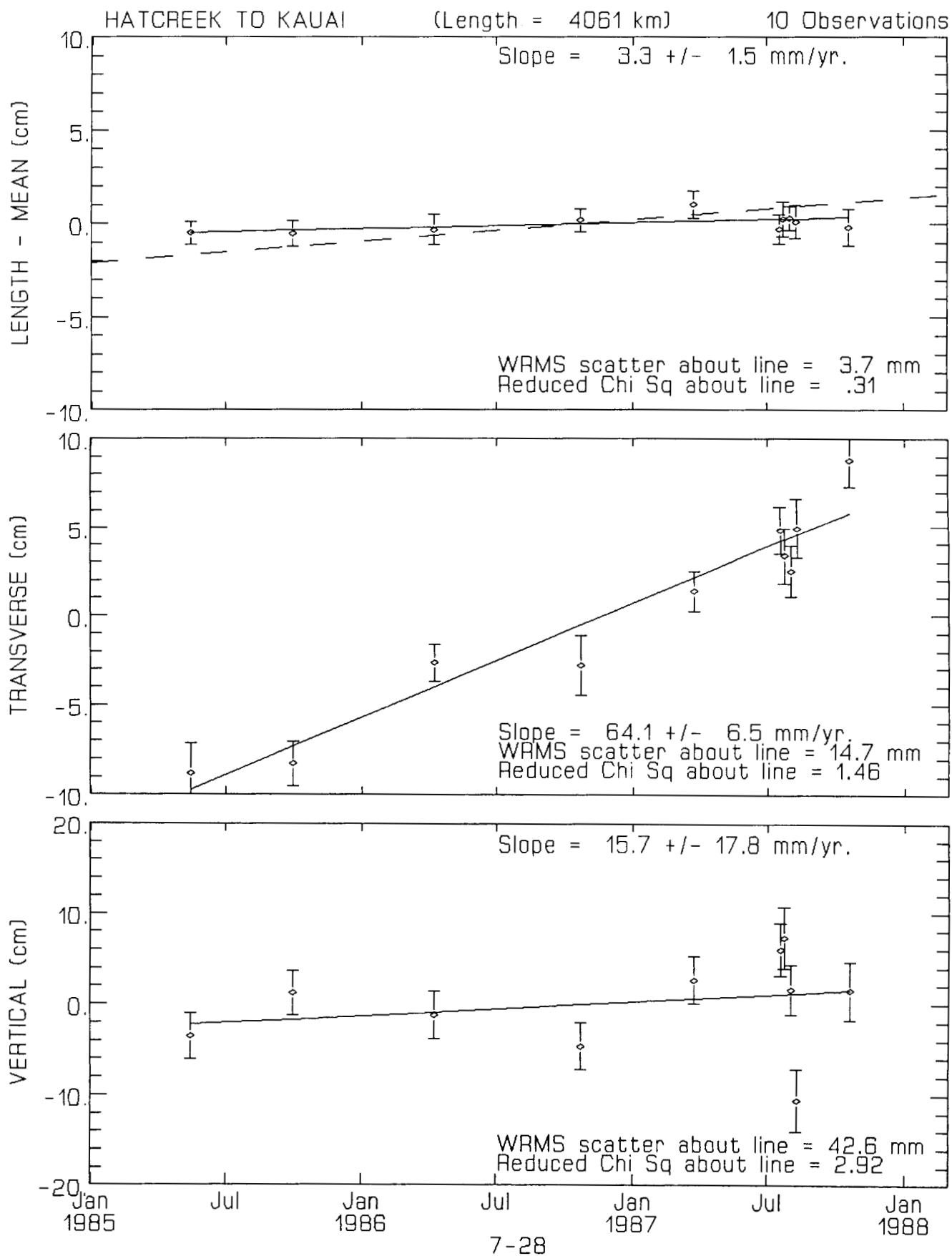


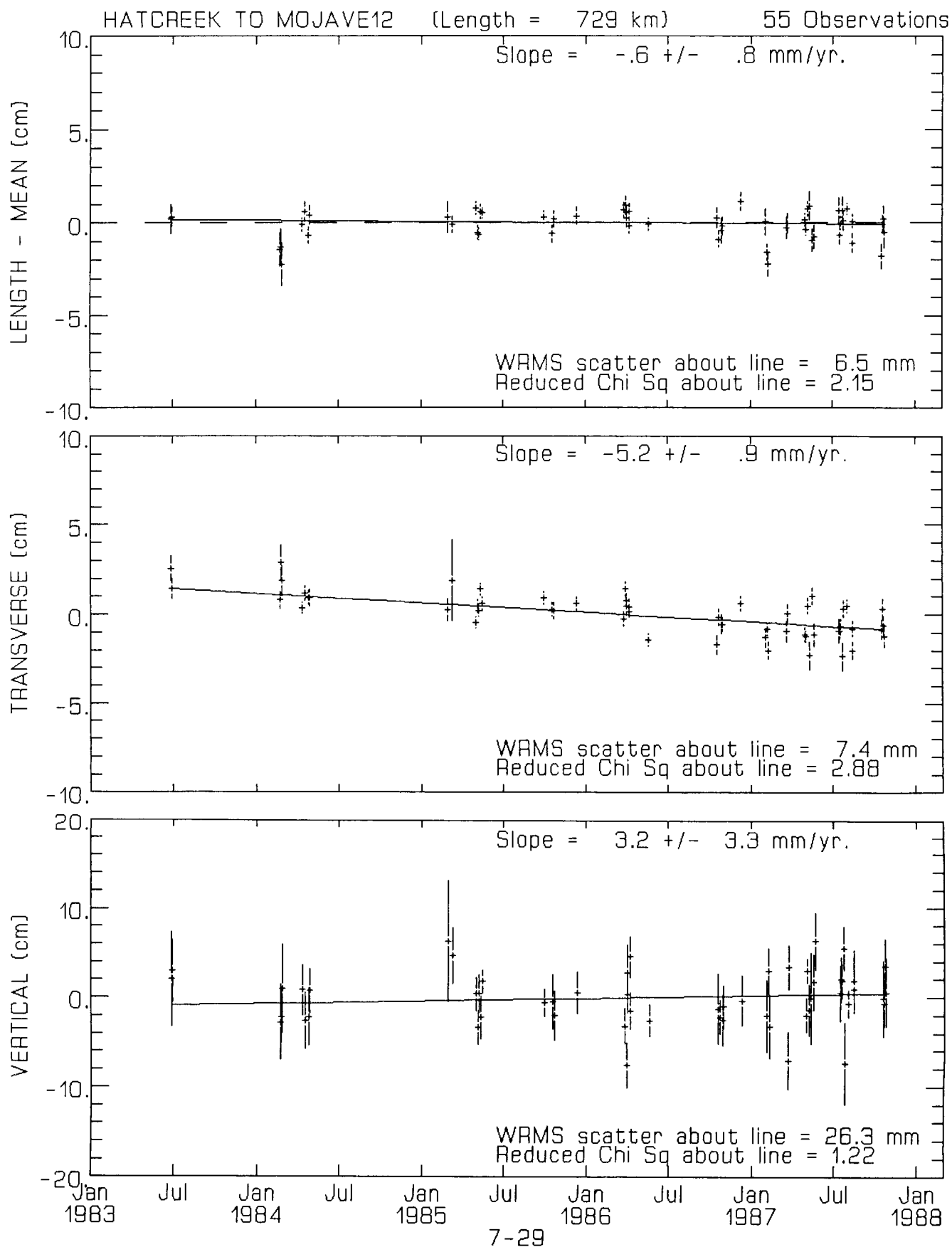
HATCREEK TO HRAS 085 (Length = 1933 km)

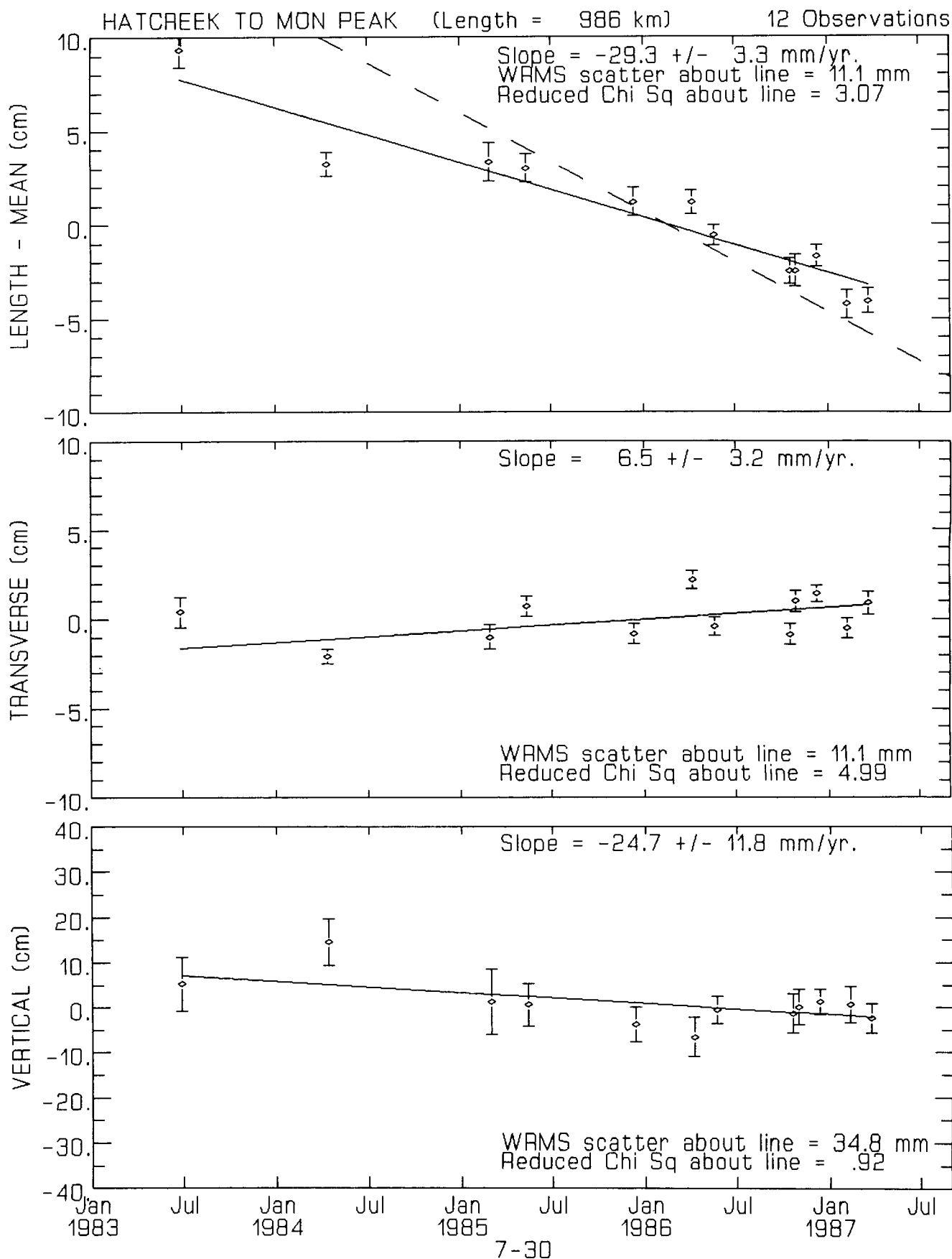
35 Observations

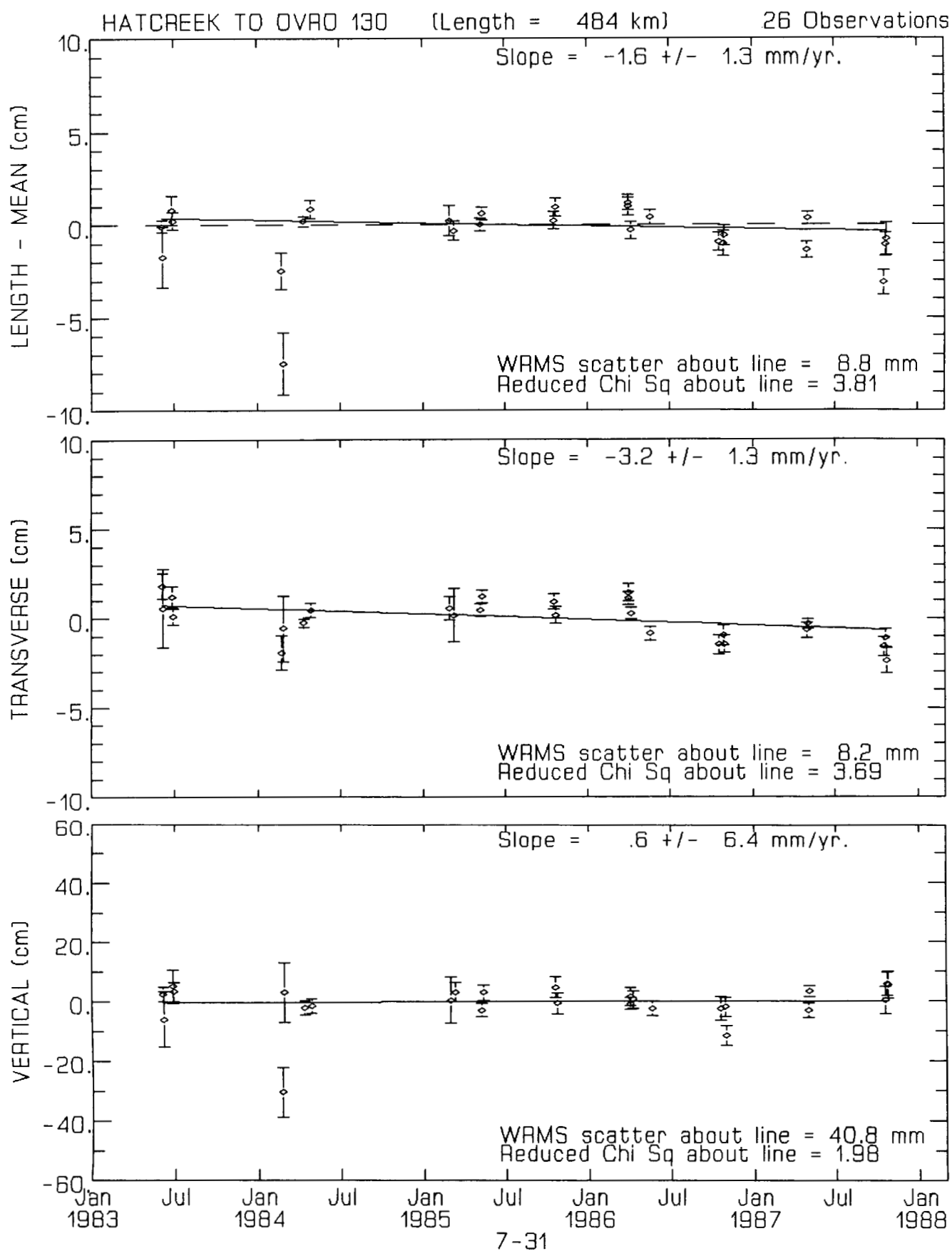


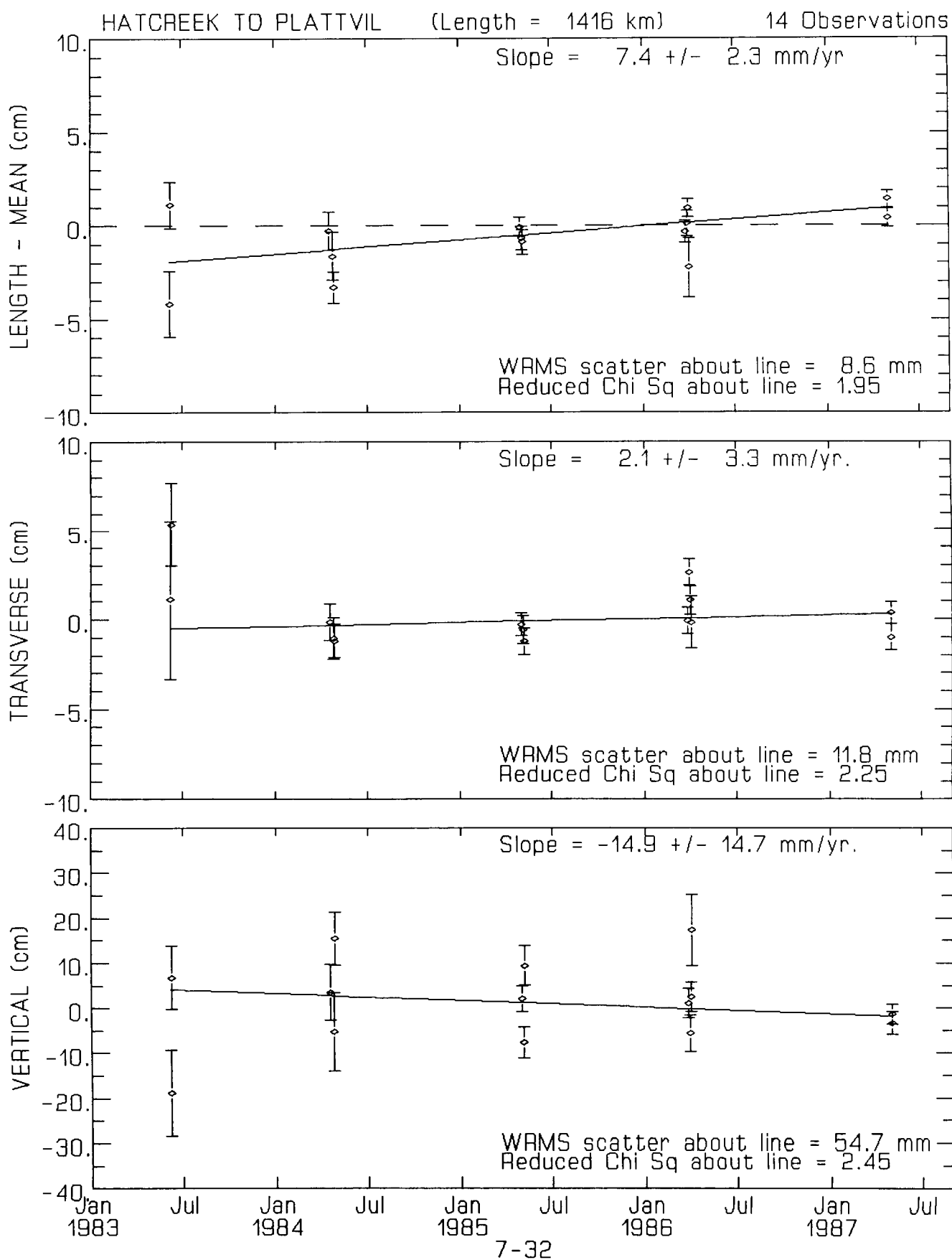


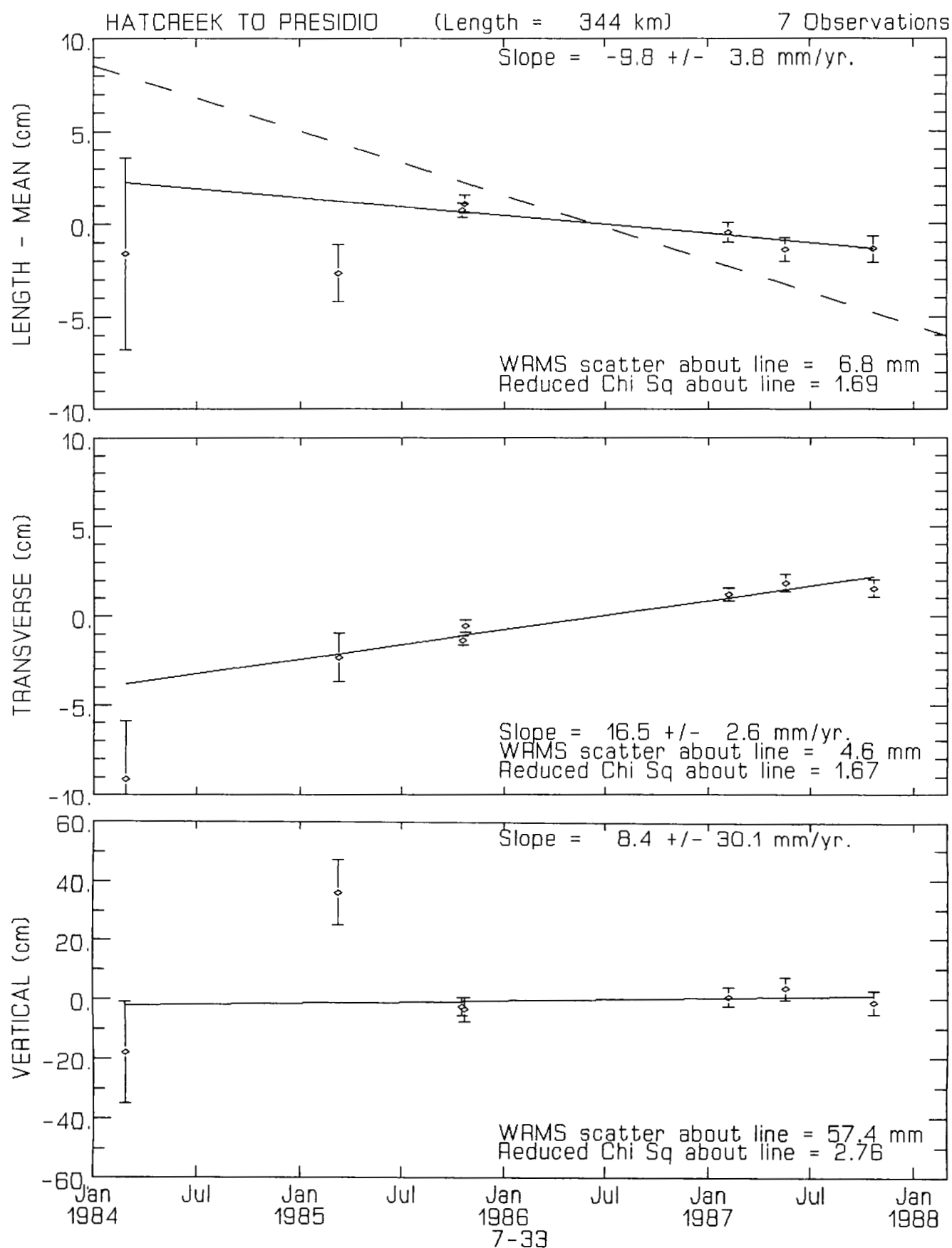


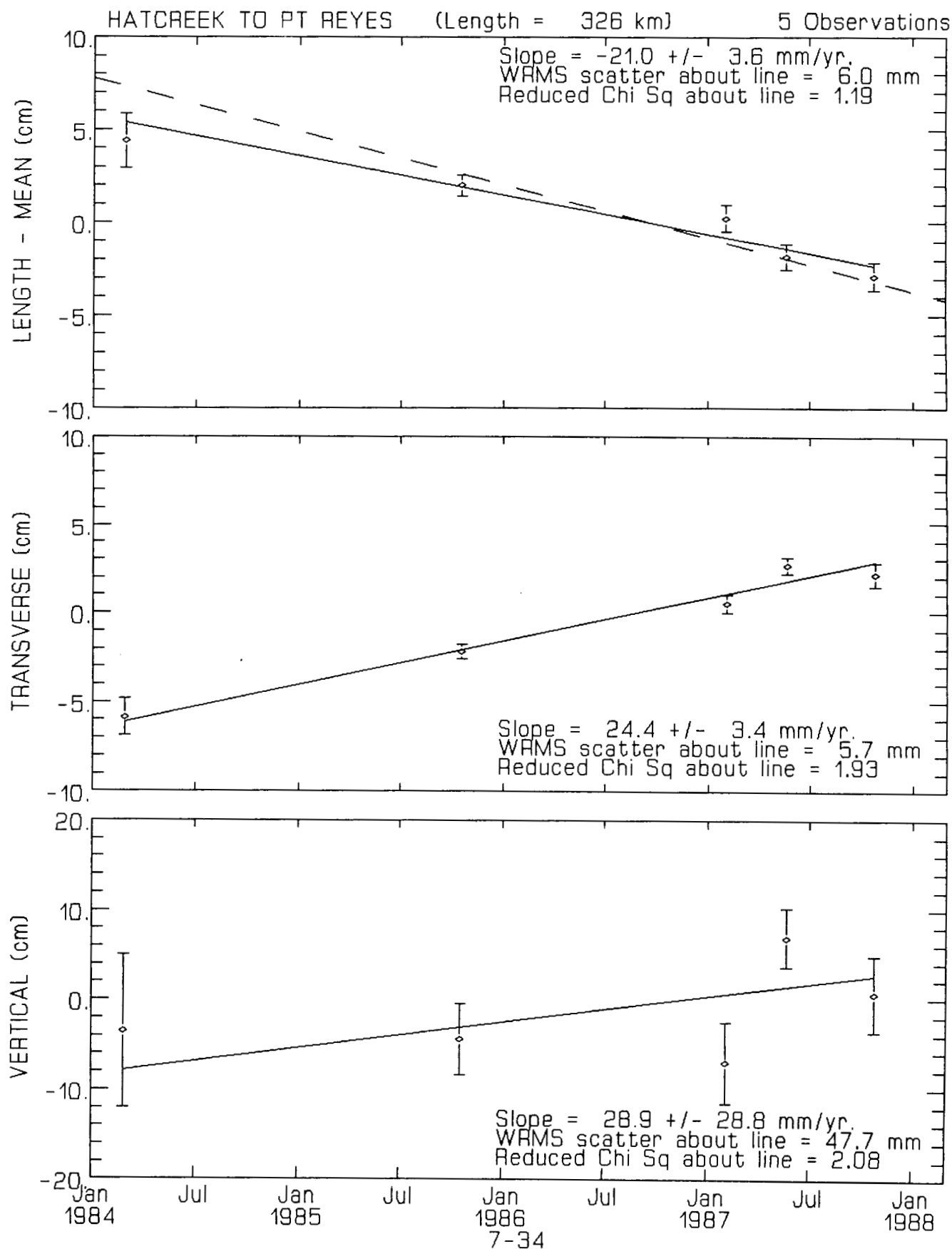


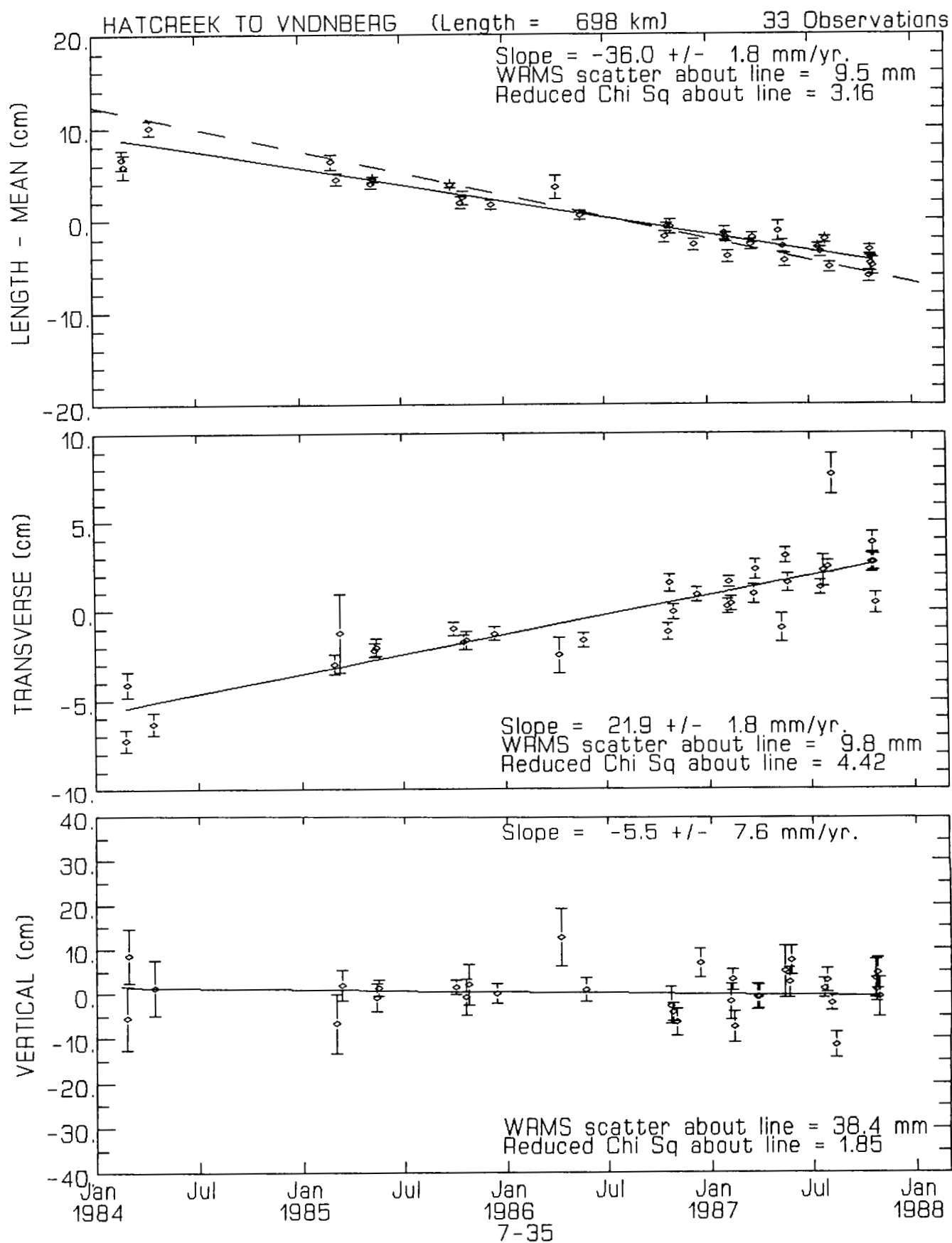


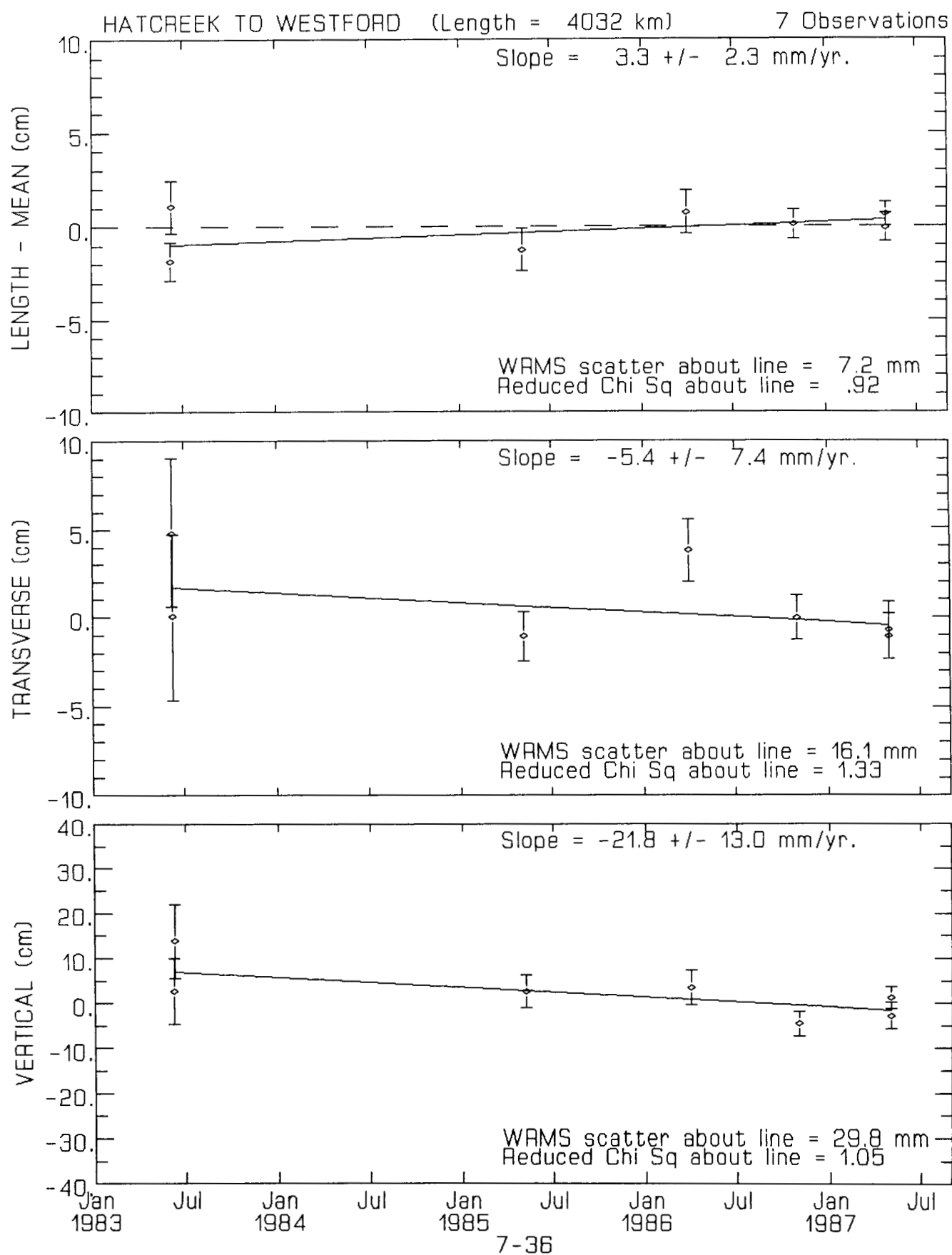


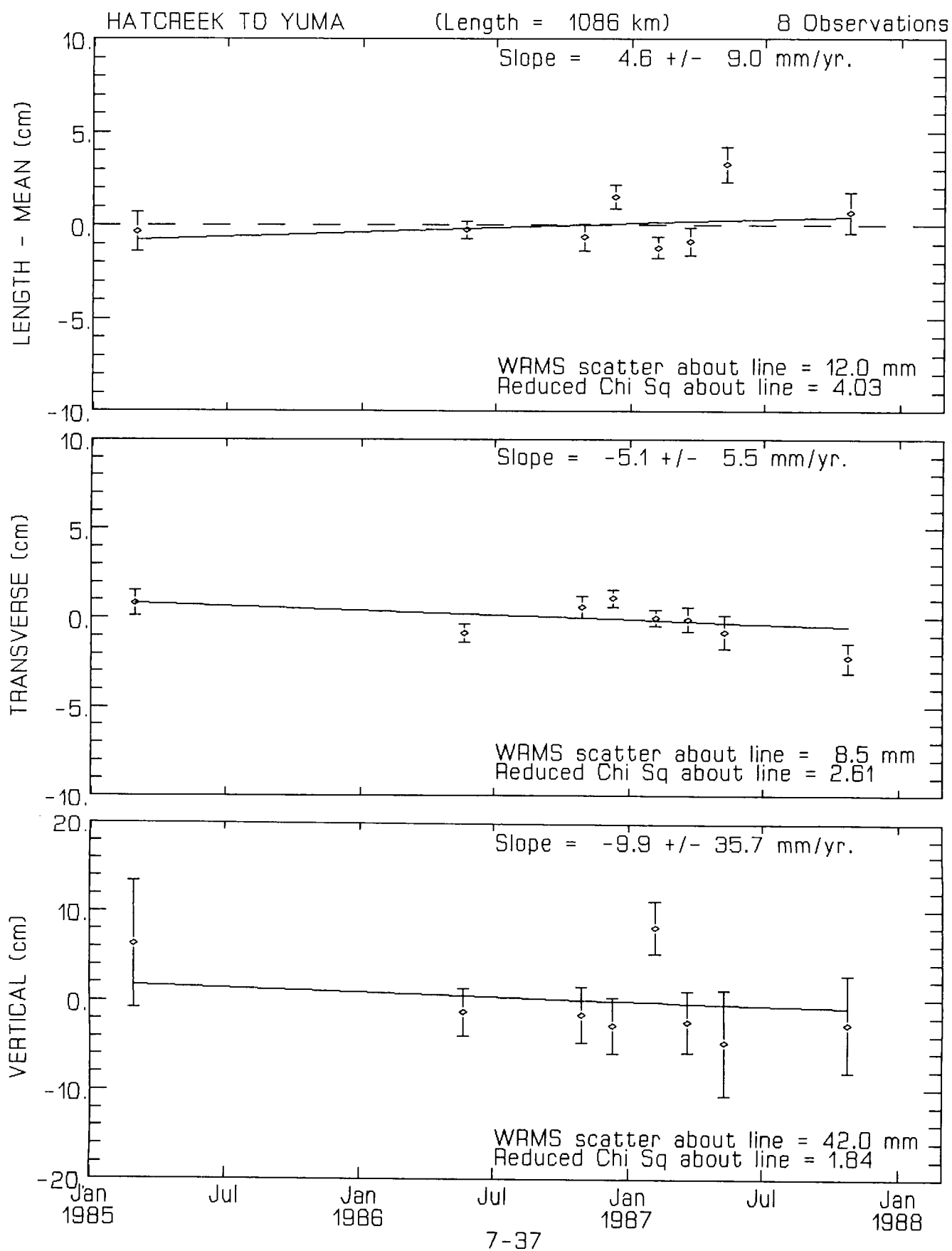


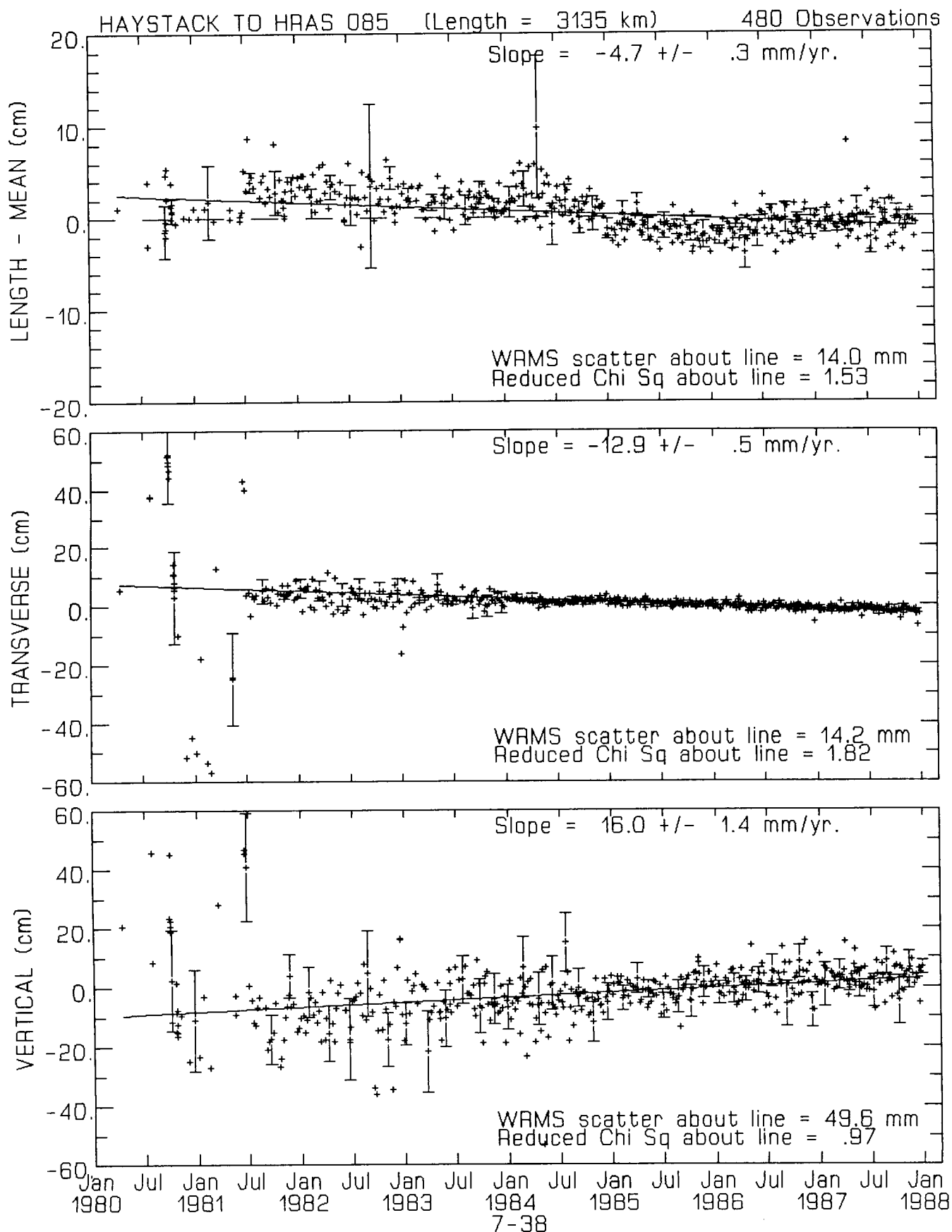


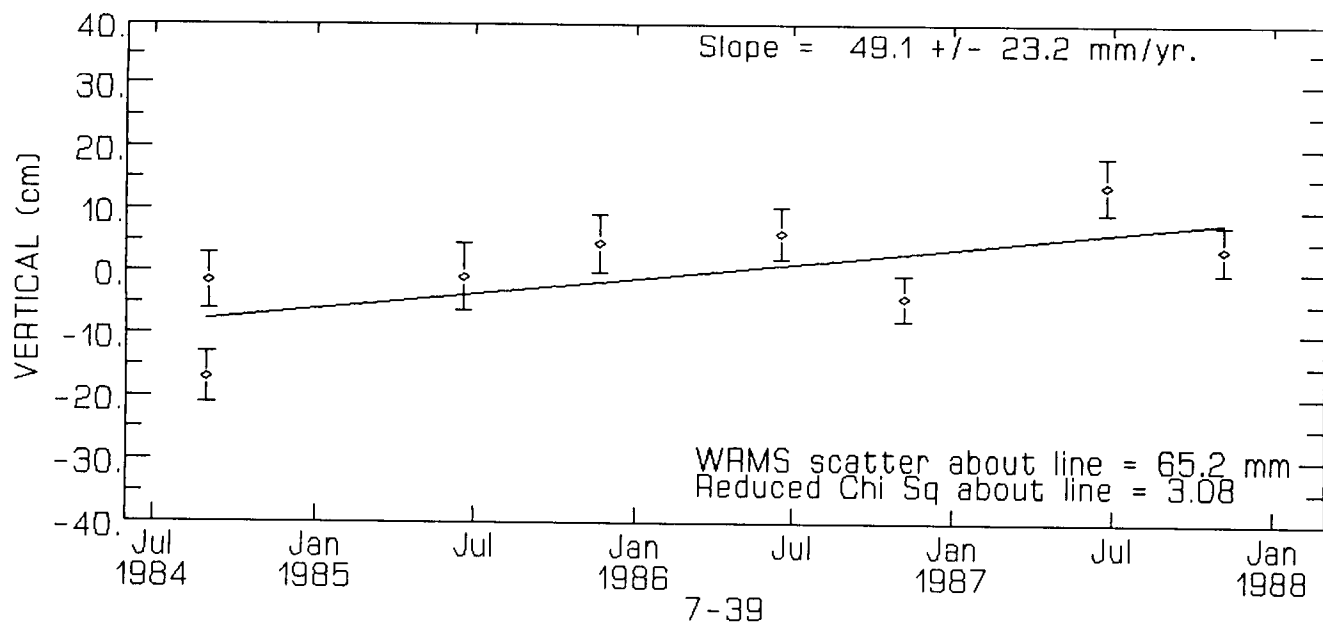
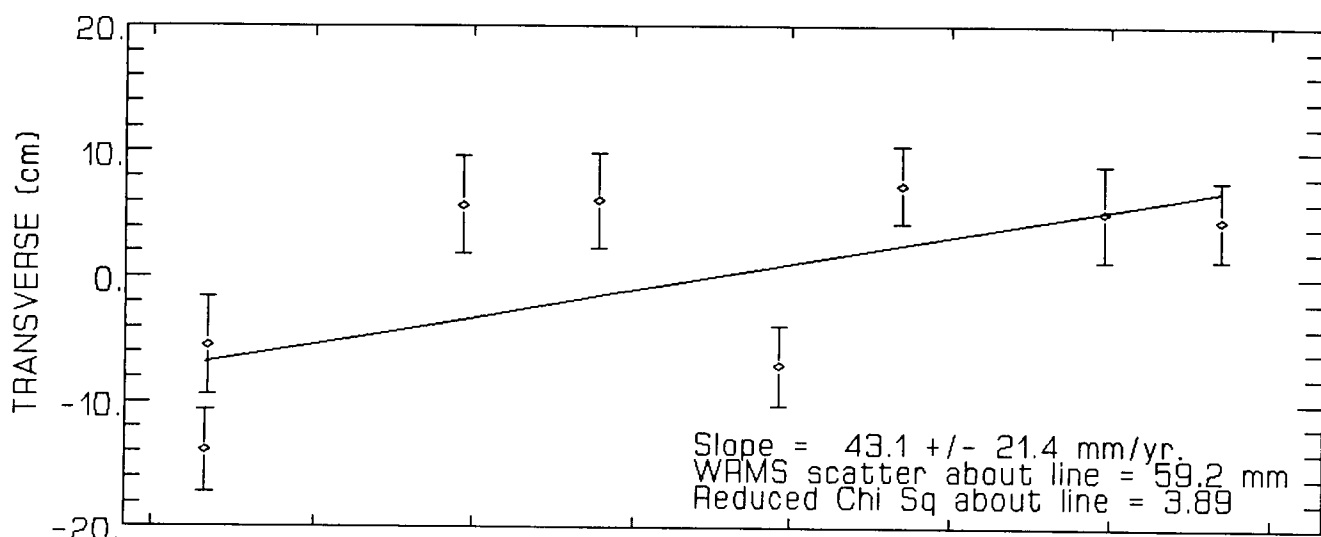
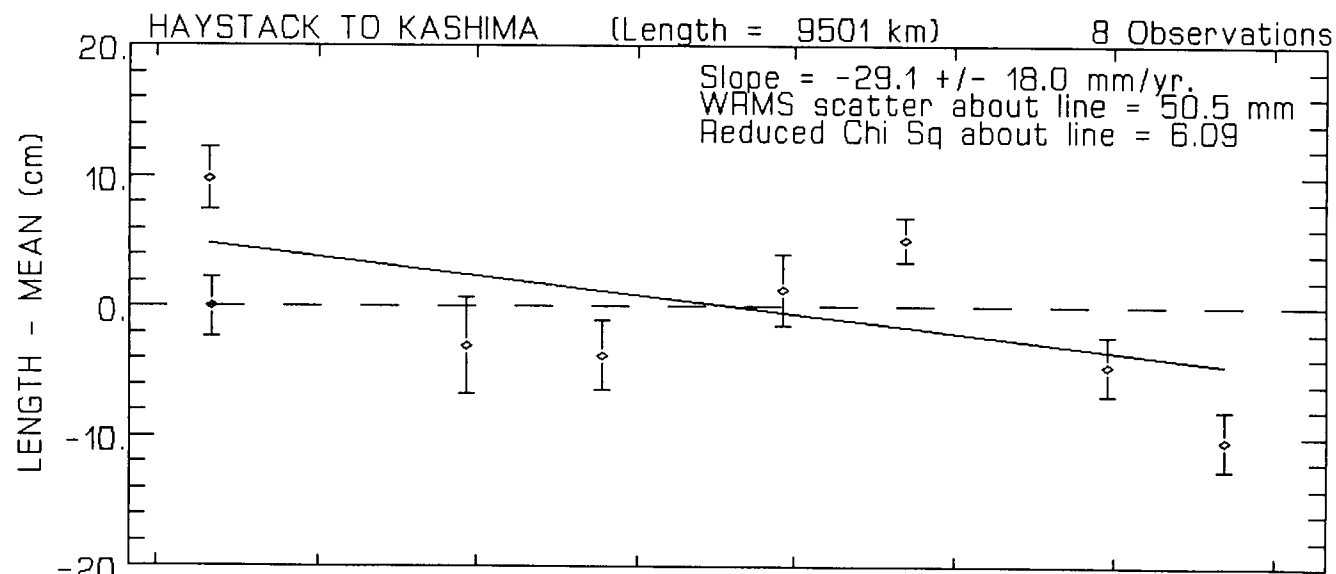


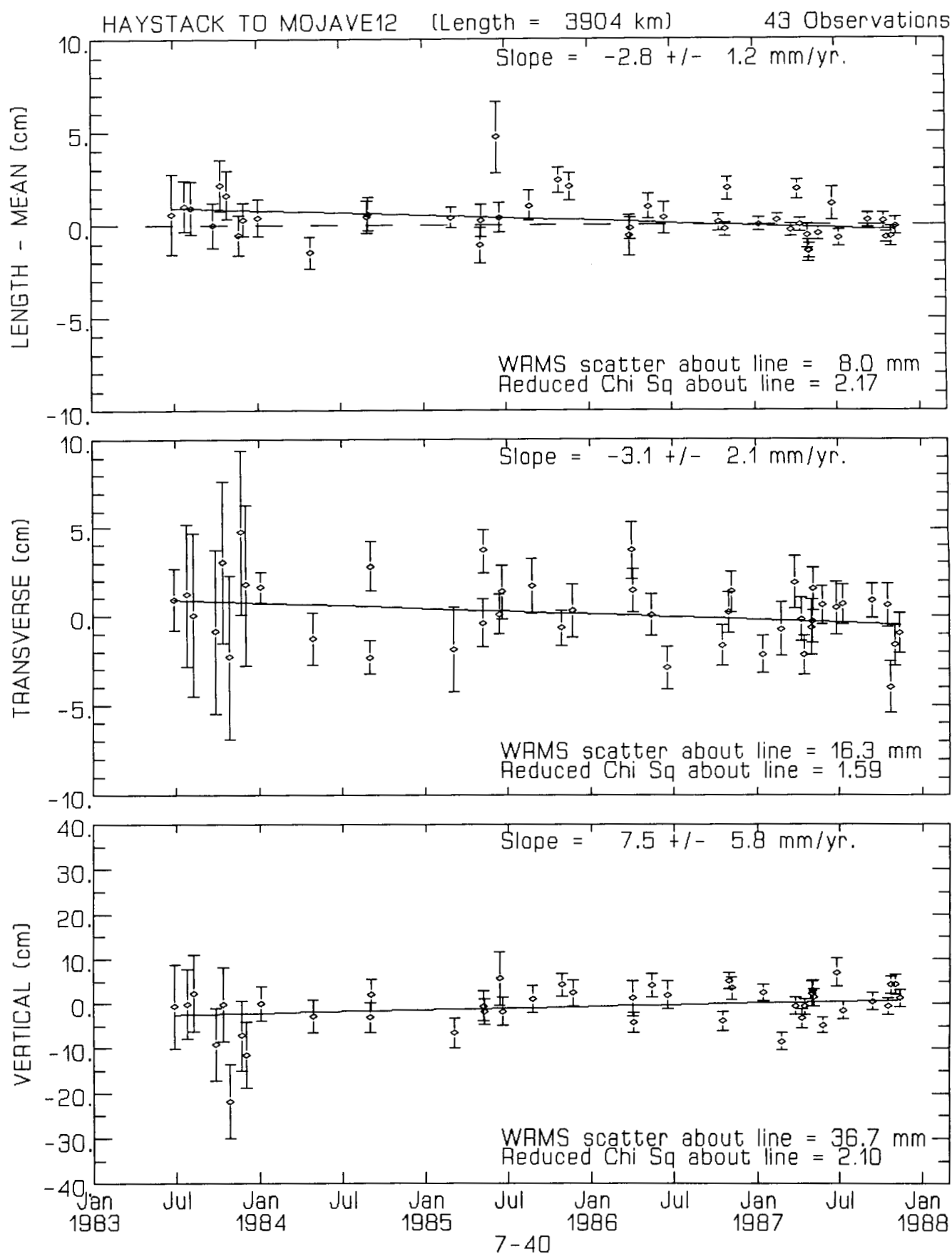


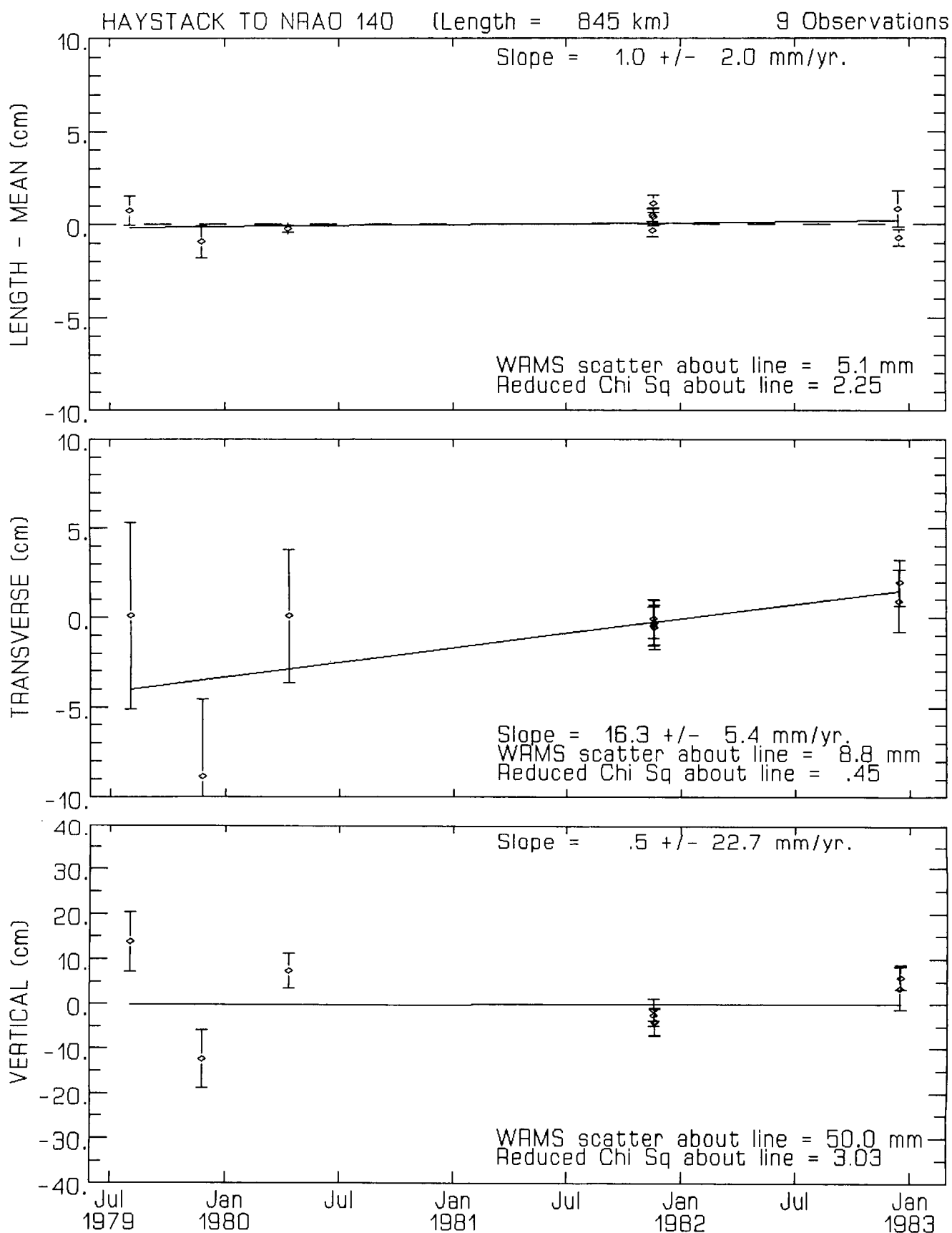


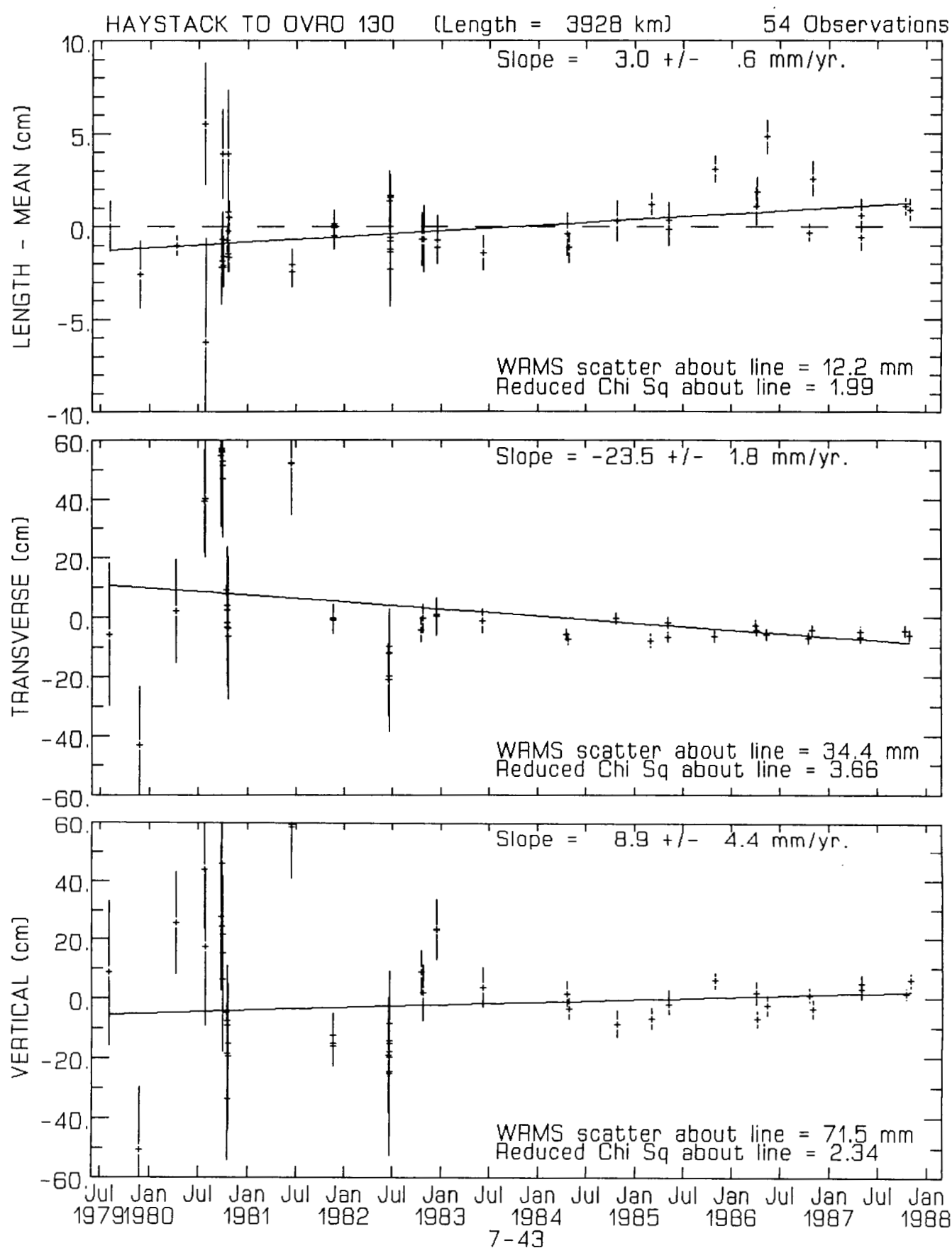


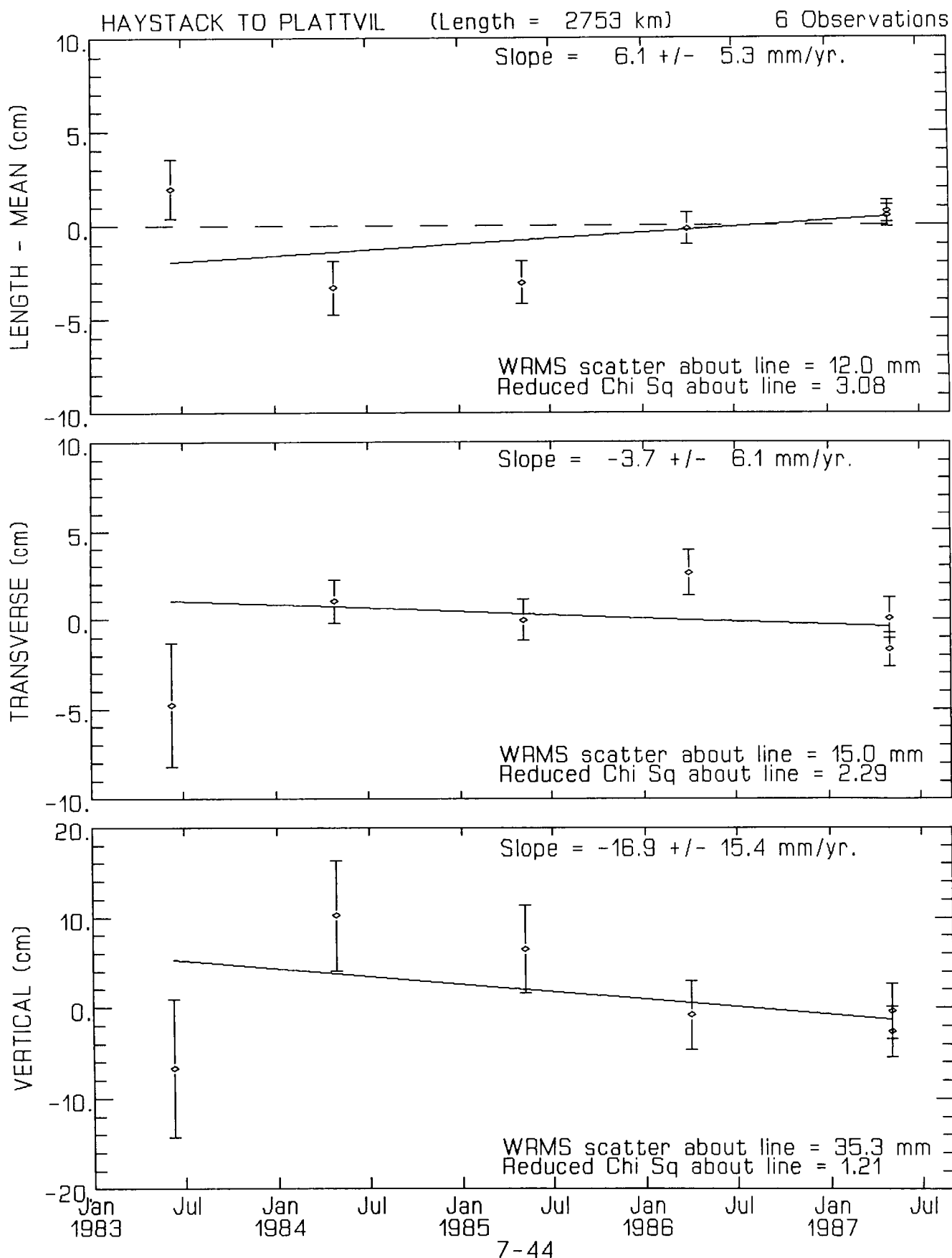


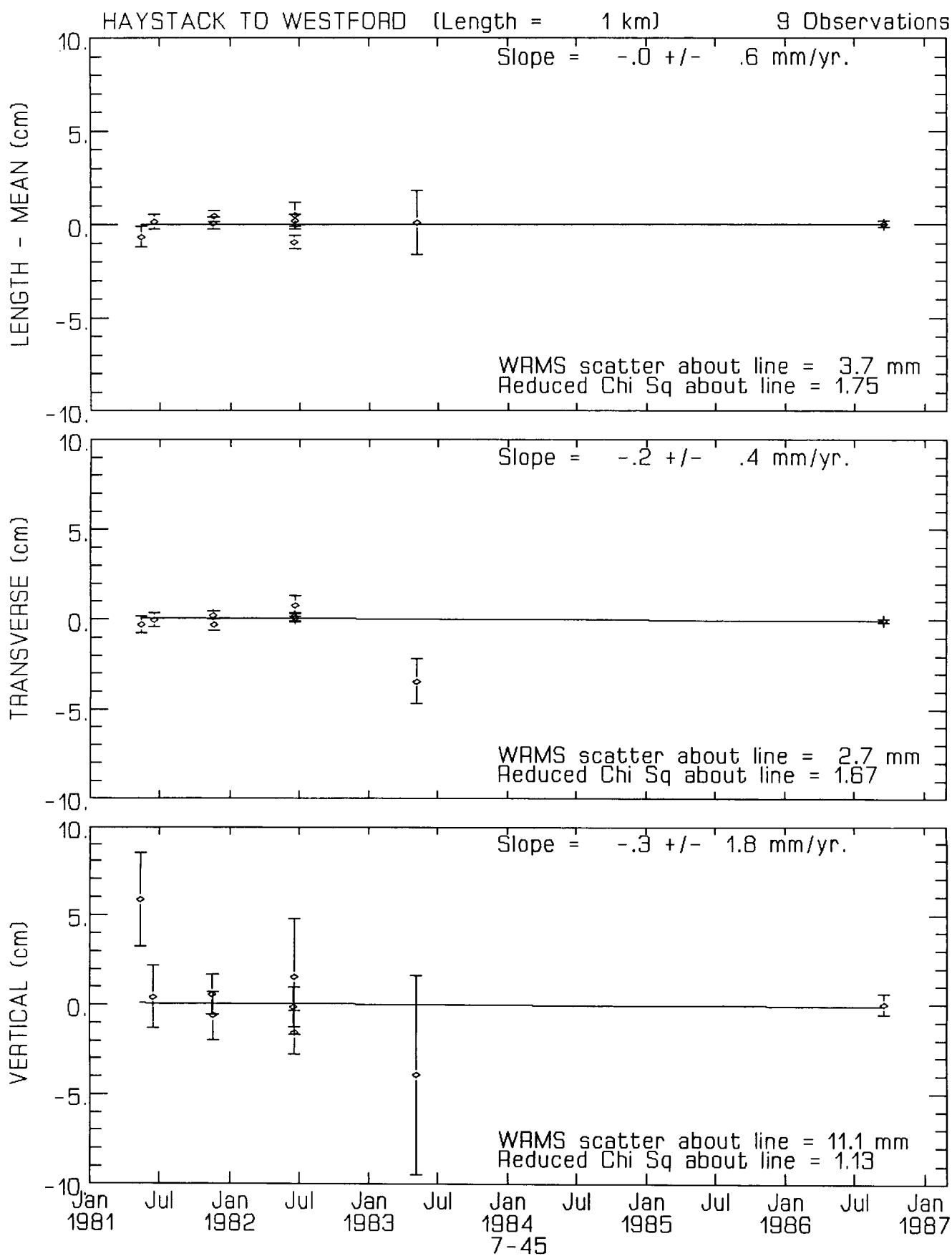


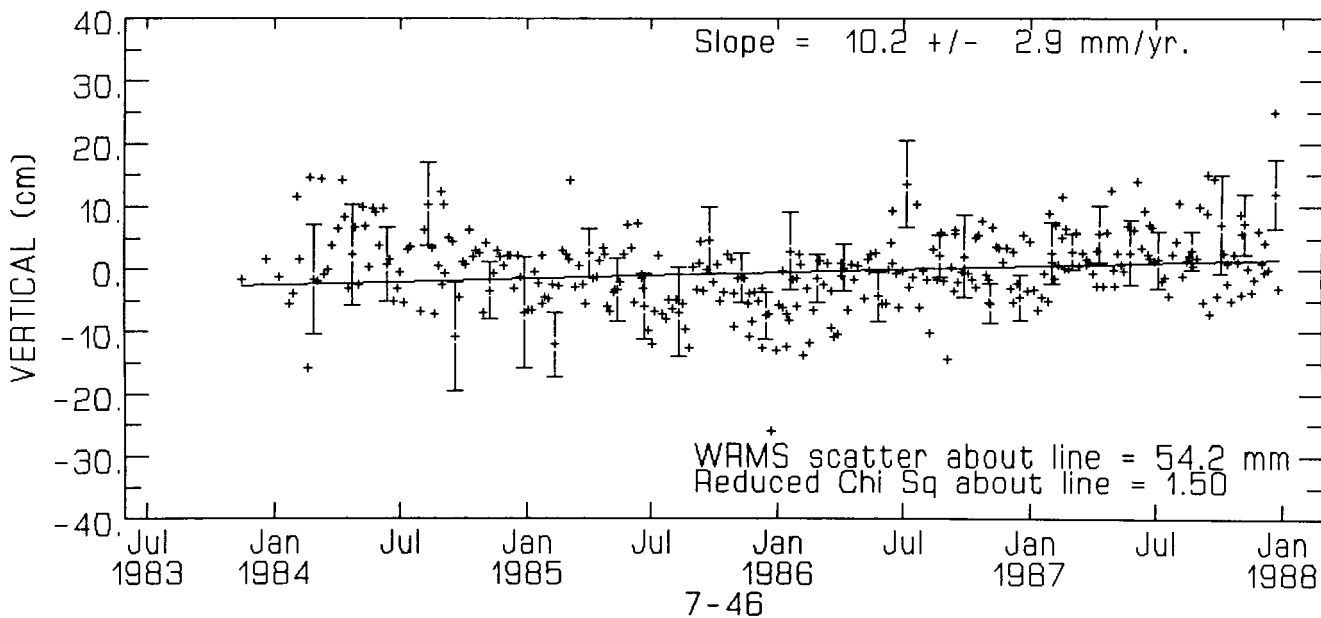
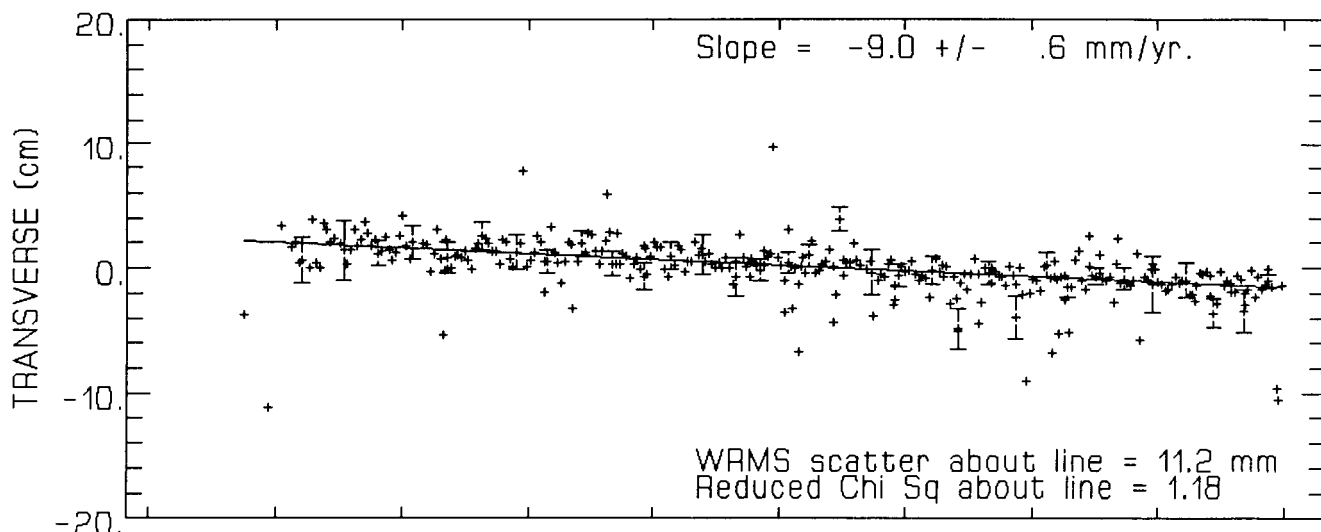
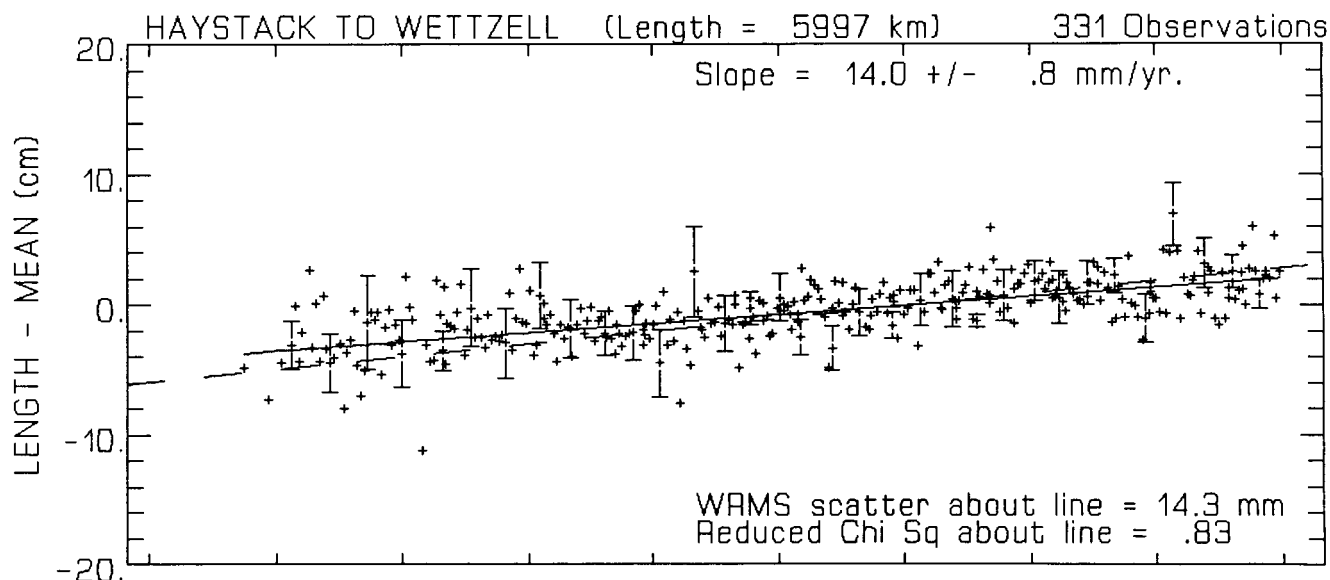












HRAS 085 TO MOJAVE12 (Length = 1313 km)

79 Observations

Slope = $2.9 \pm .7$ mm/yr.

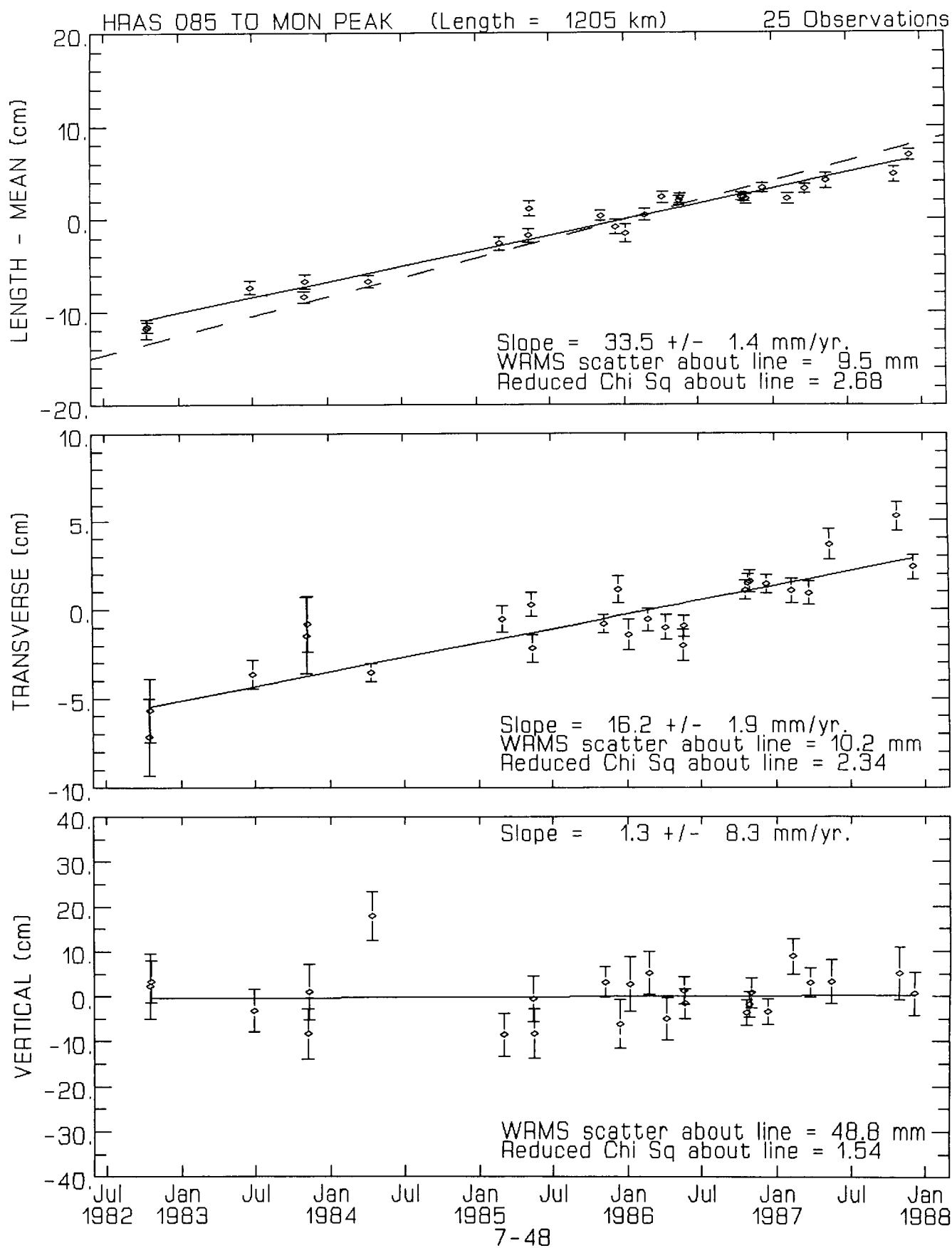
WRMS scatter about line = 6.8 mm
Reduced Chi Sq about line = 2.82

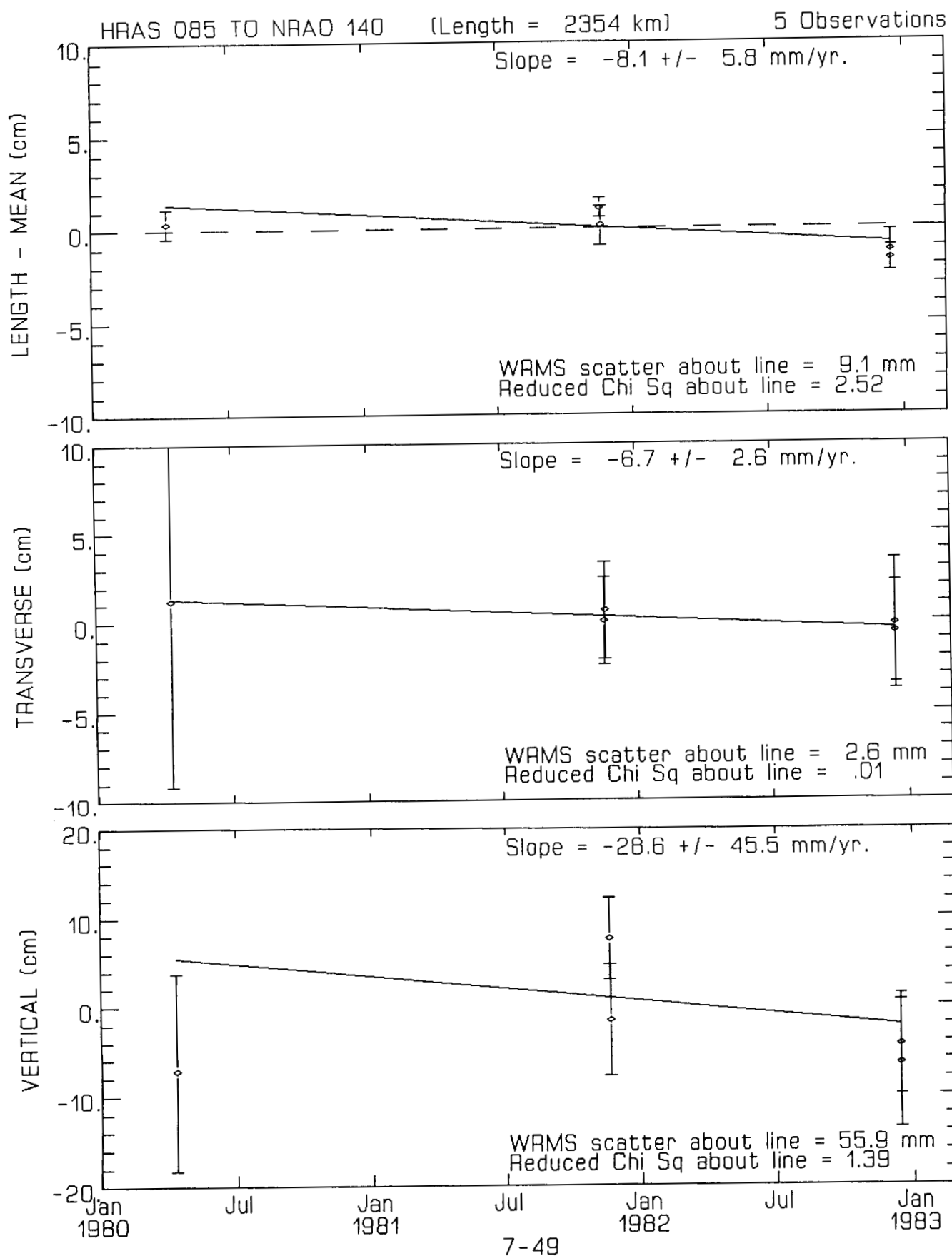
Slope = $.5 \pm .9$ mm/yr.

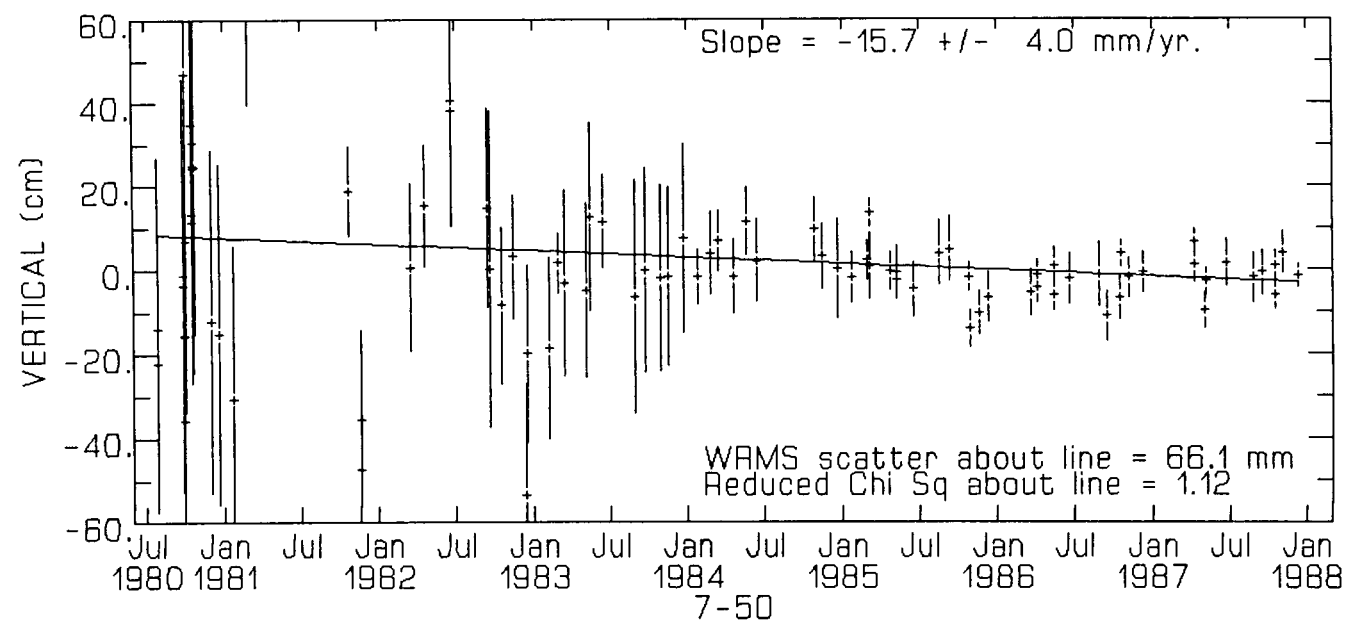
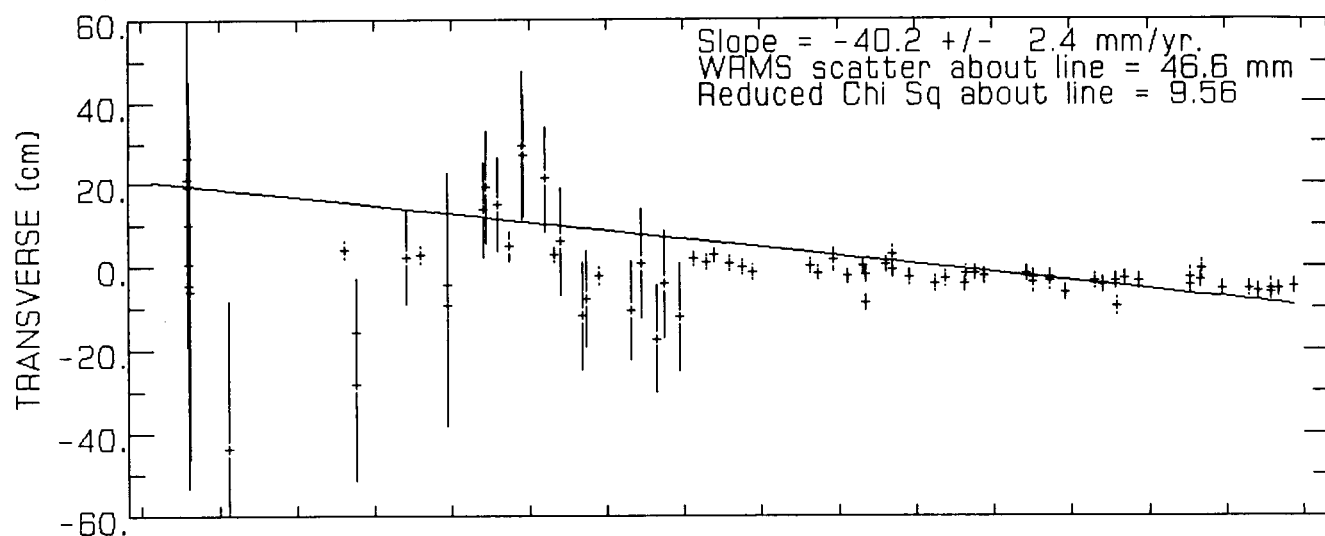
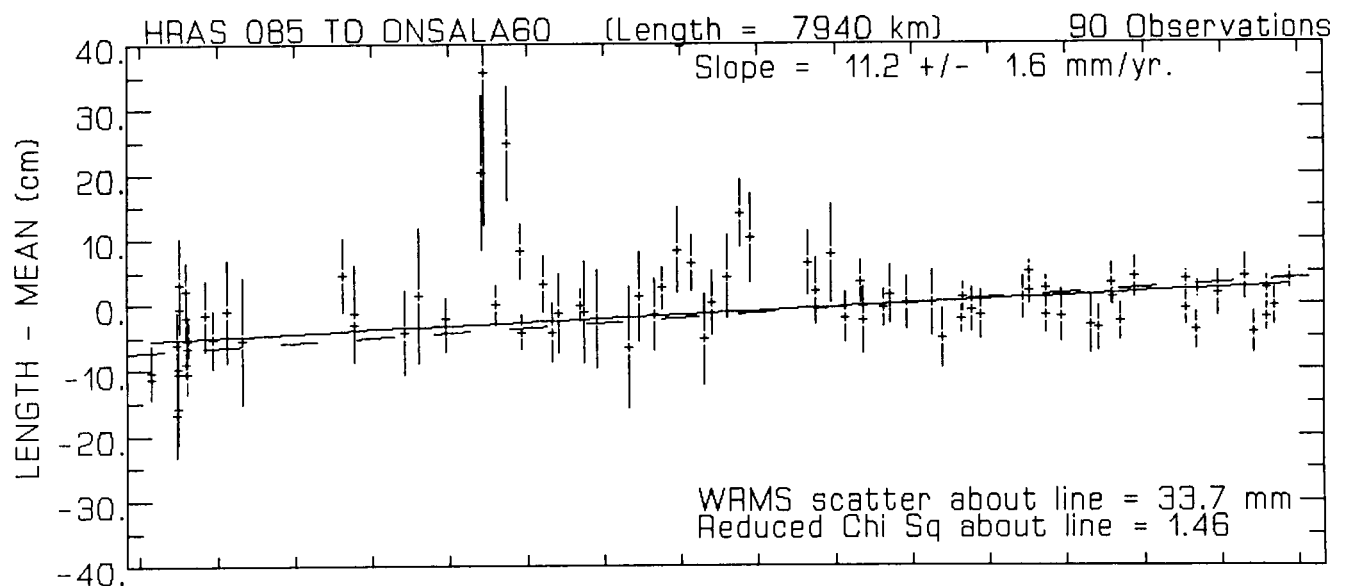
WRMS scatter about line = 8.6 mm
Reduced Chi Sq about line = 2.06

Slope = $.9 \pm 2.9$ mm/yr.

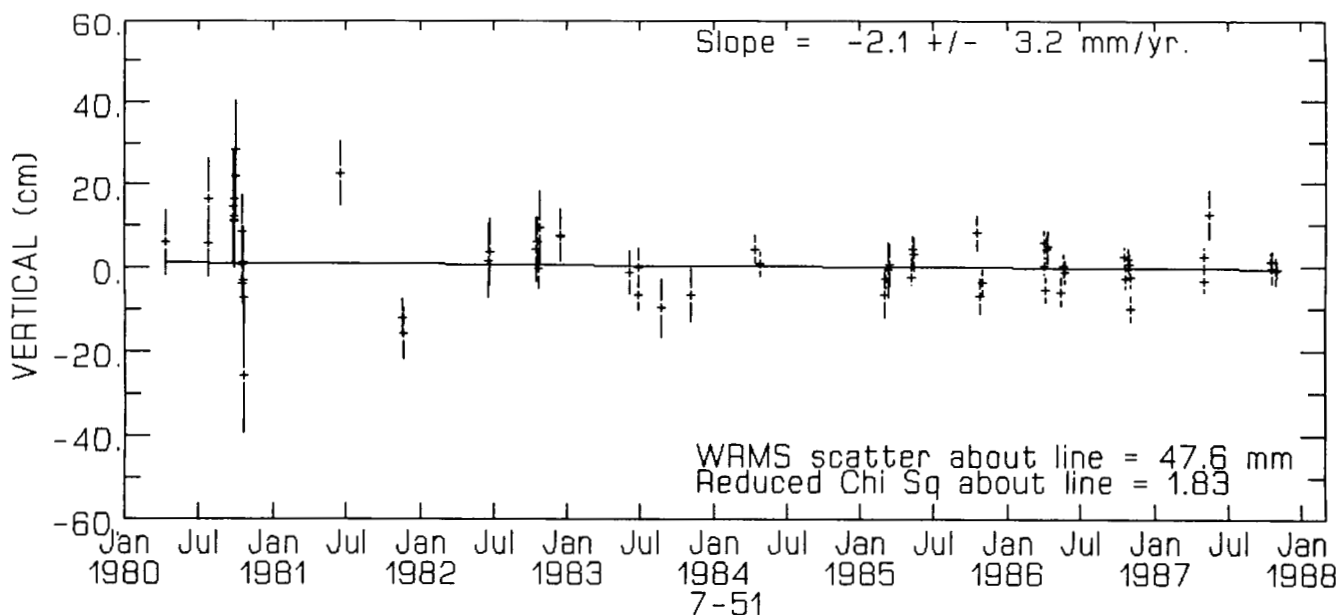
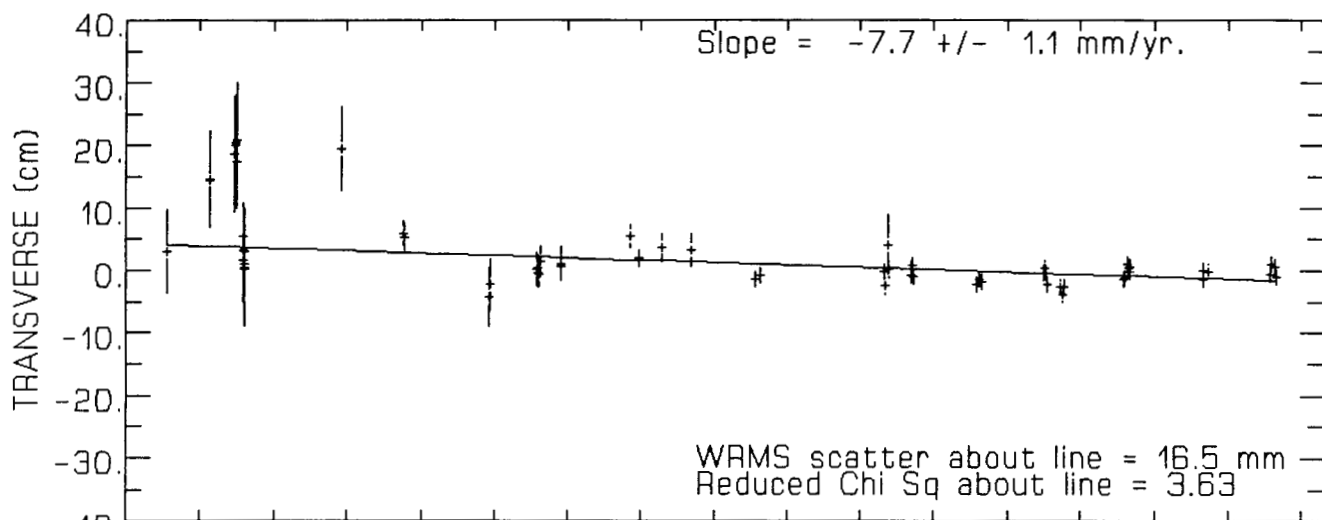
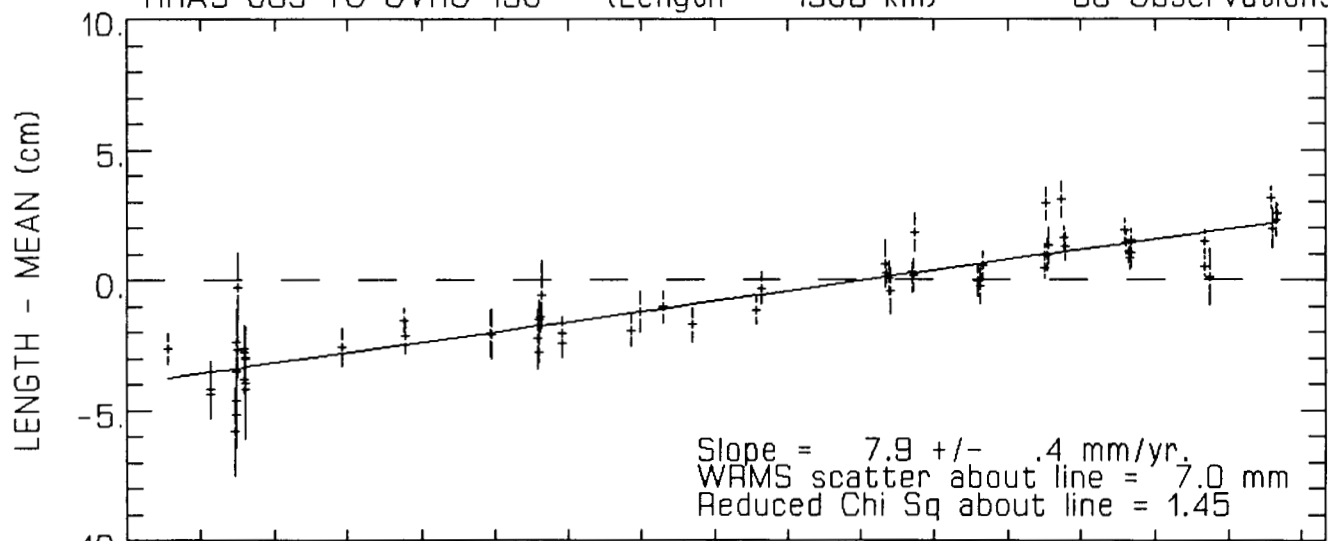
WRMS scatter about line = 26.4 mm
Reduced Chi Sq about line = 1.33

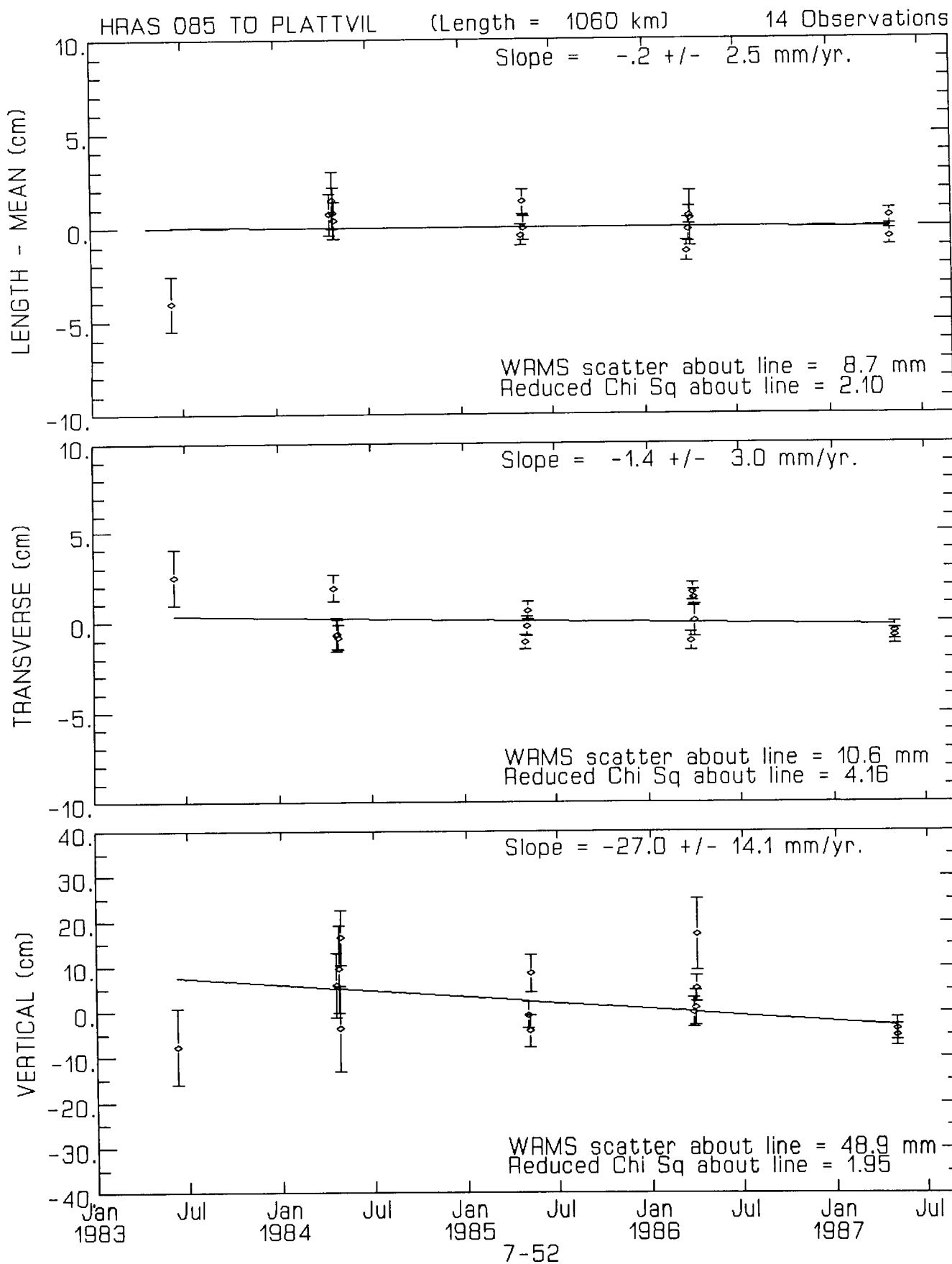


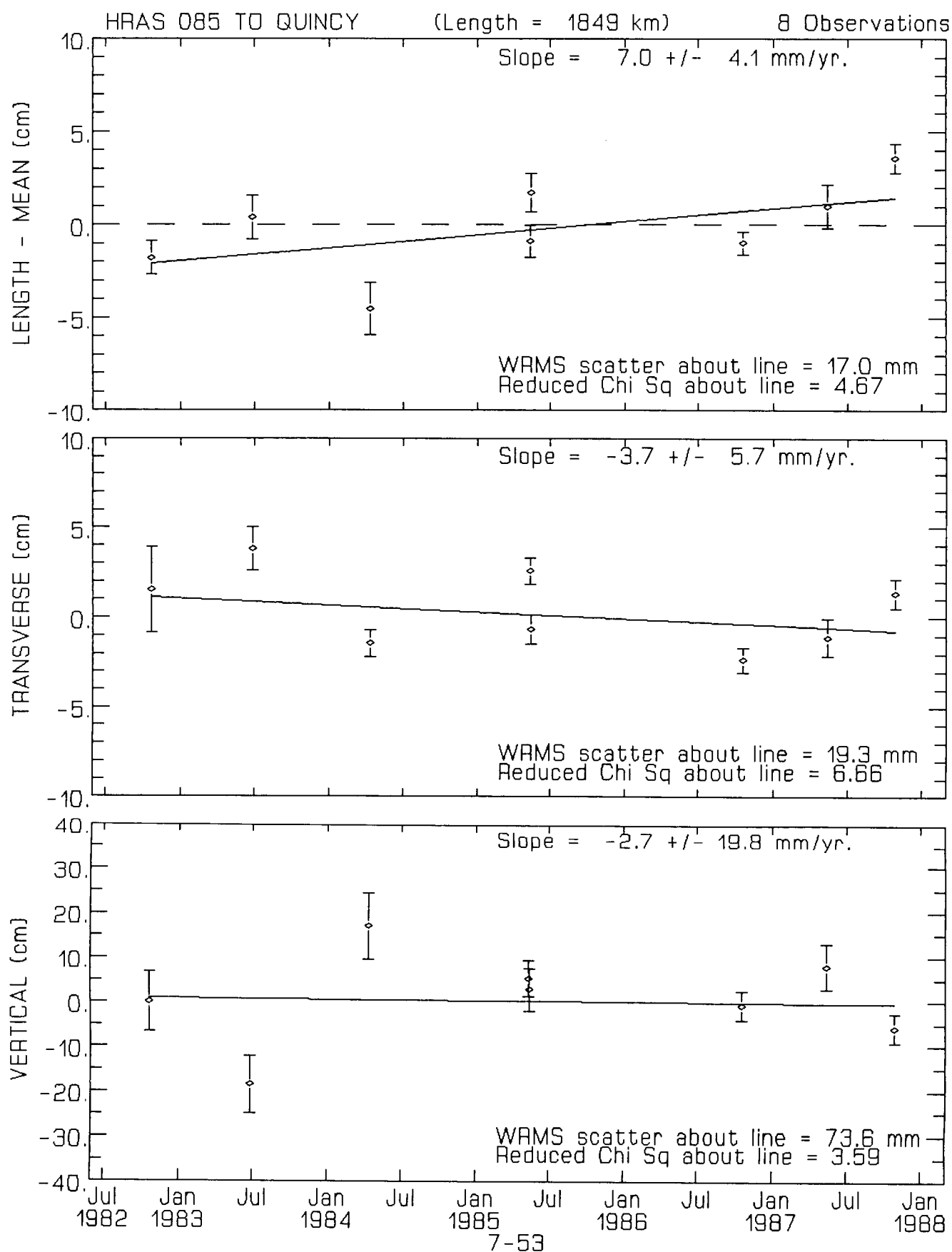


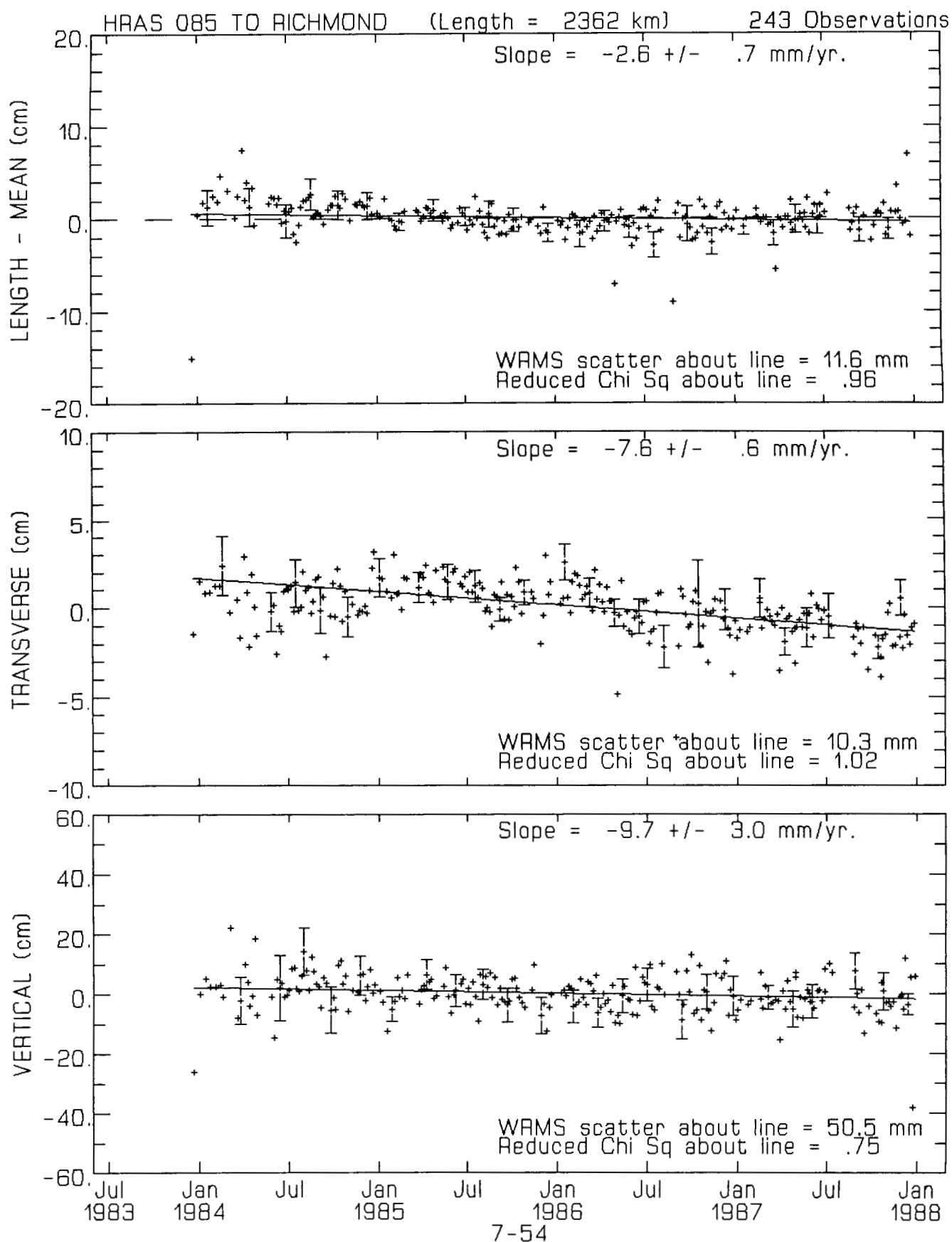


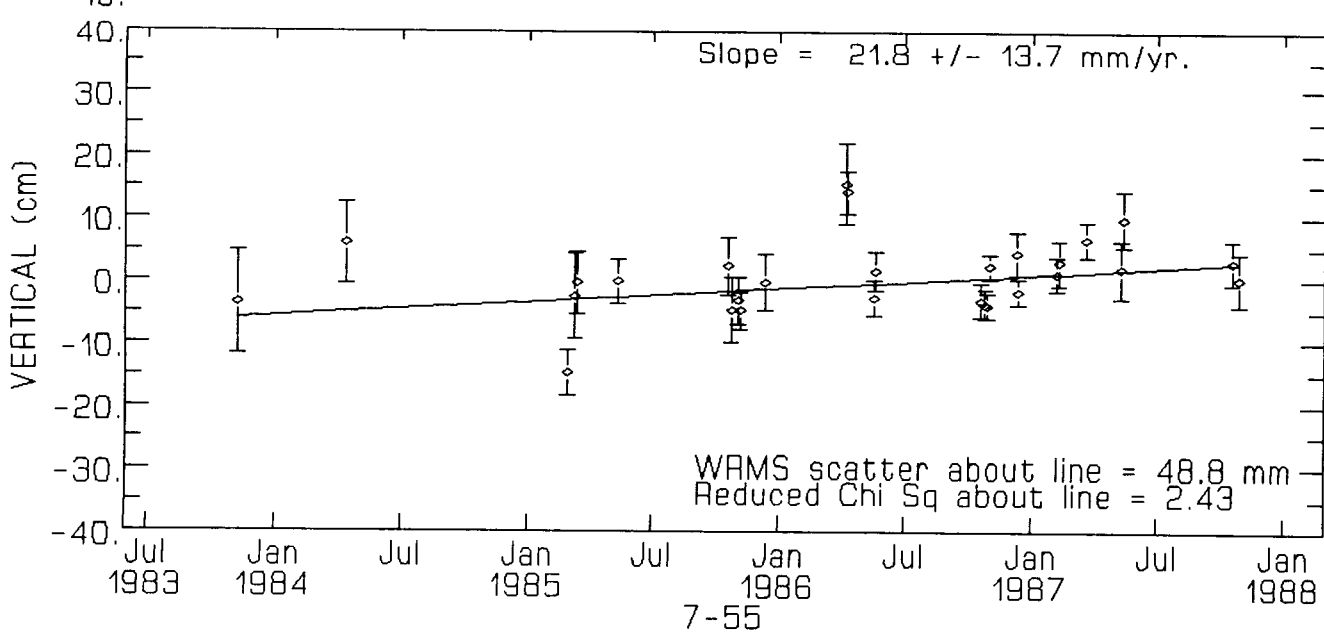
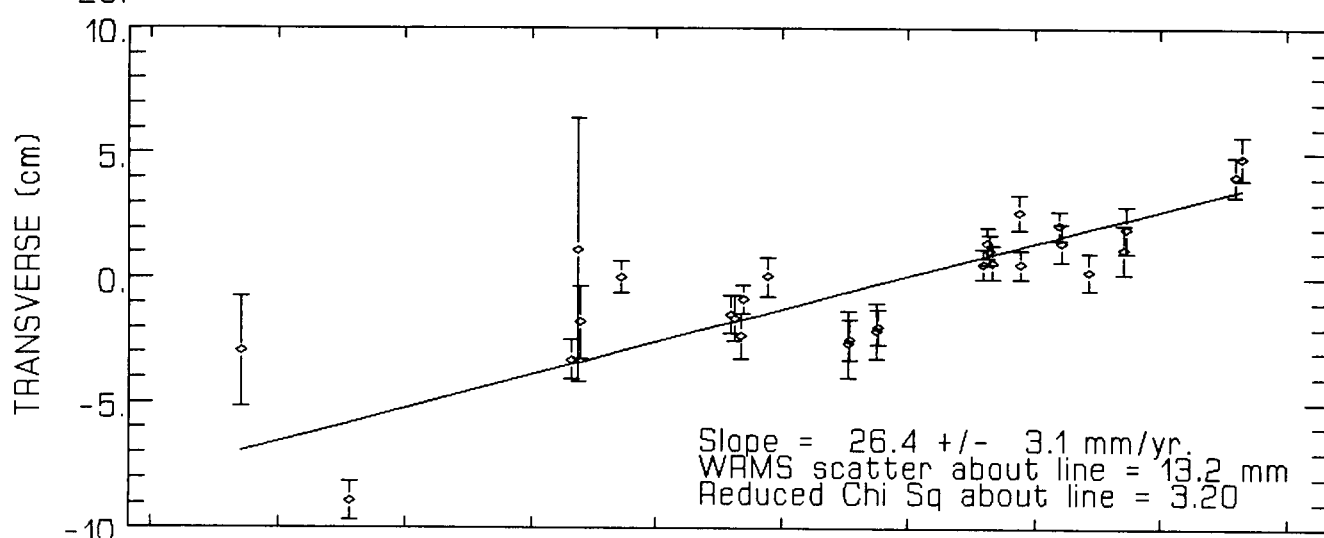
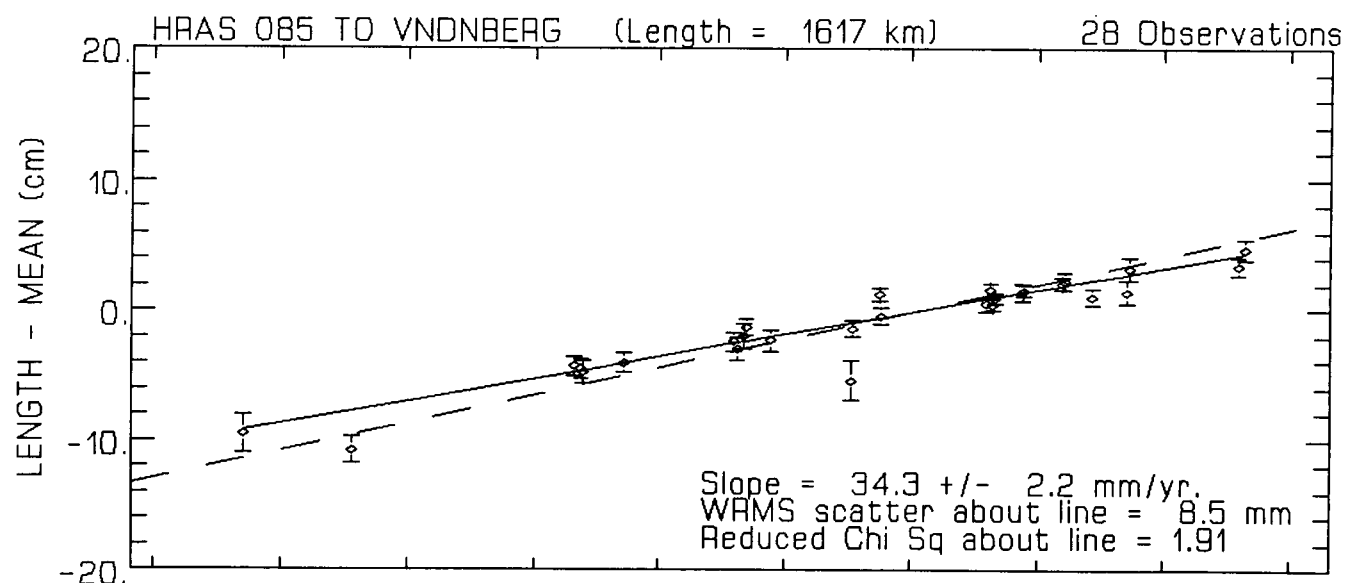
HRAS 085 TO OVRO 130 (Length = 1508 km) 68 Observations

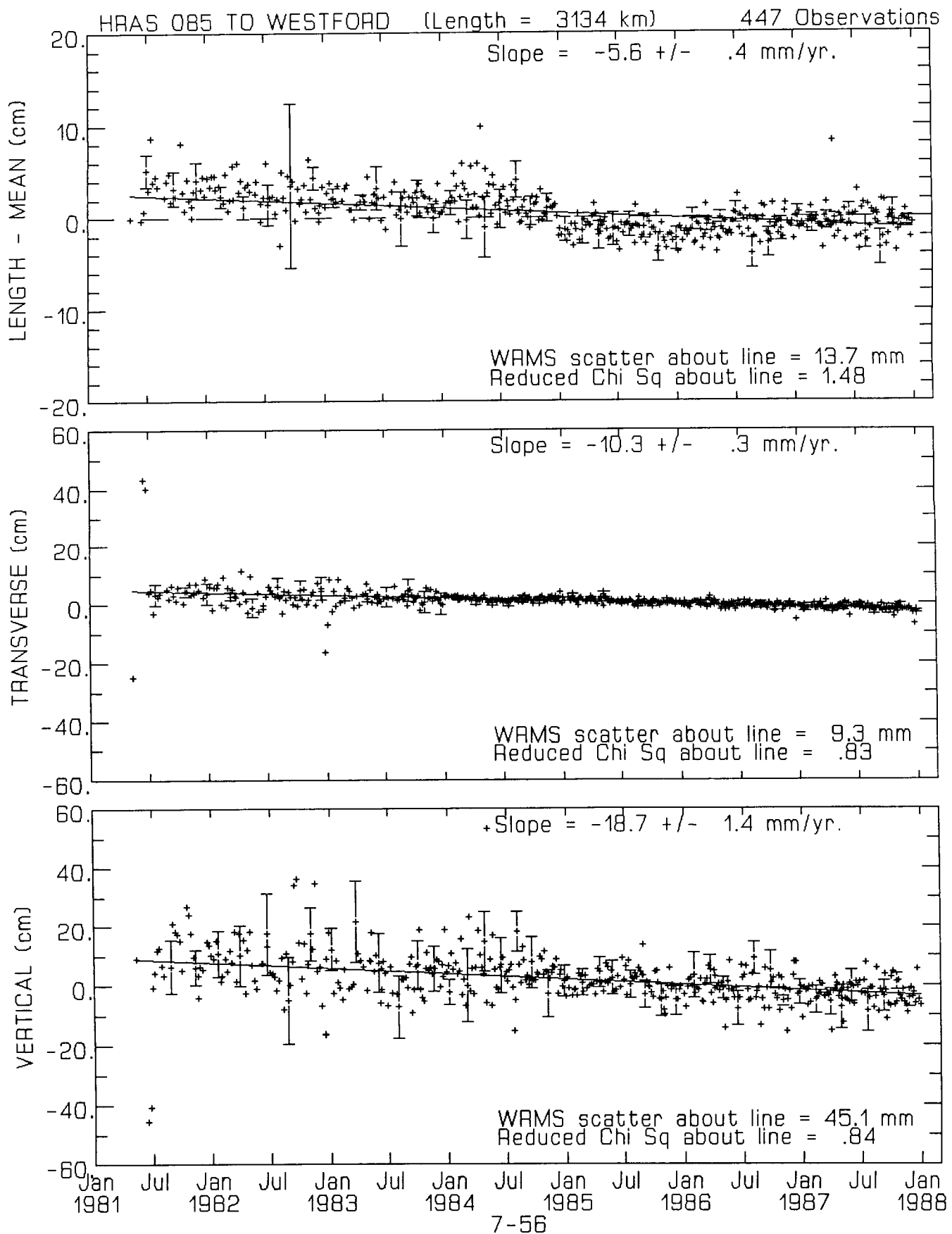


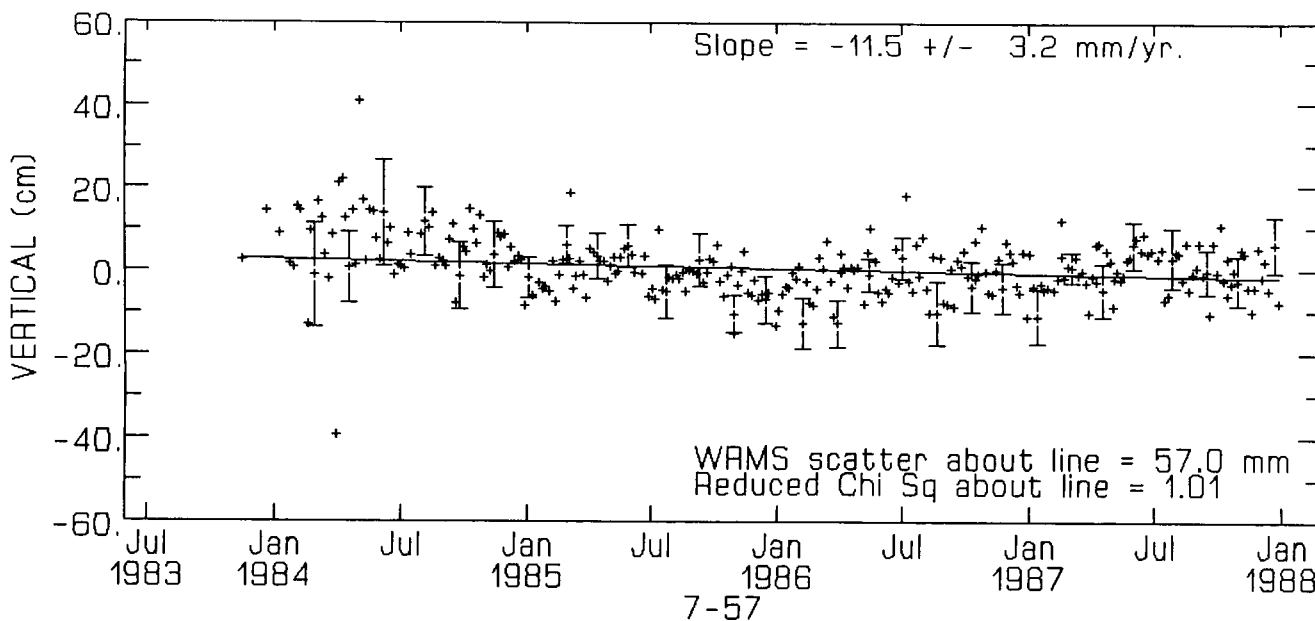
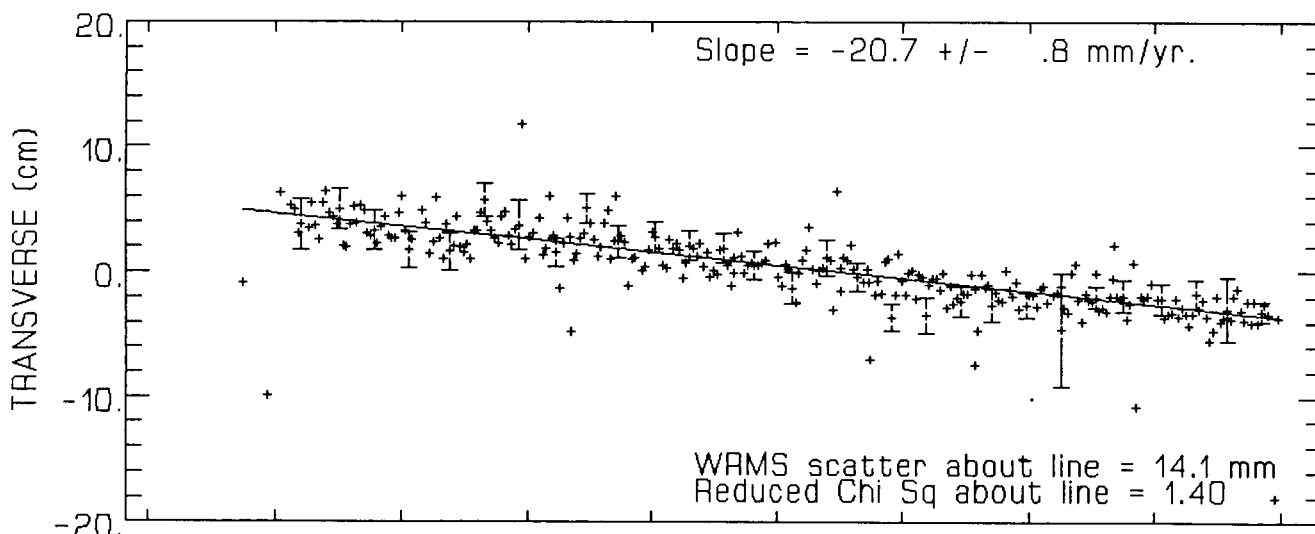
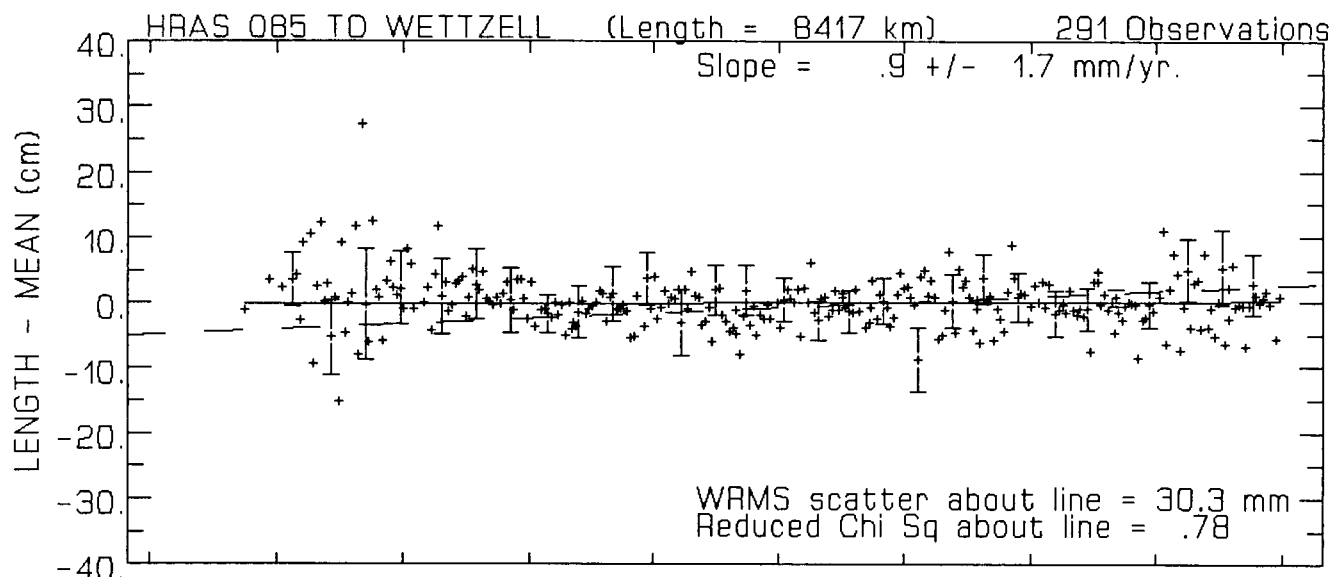


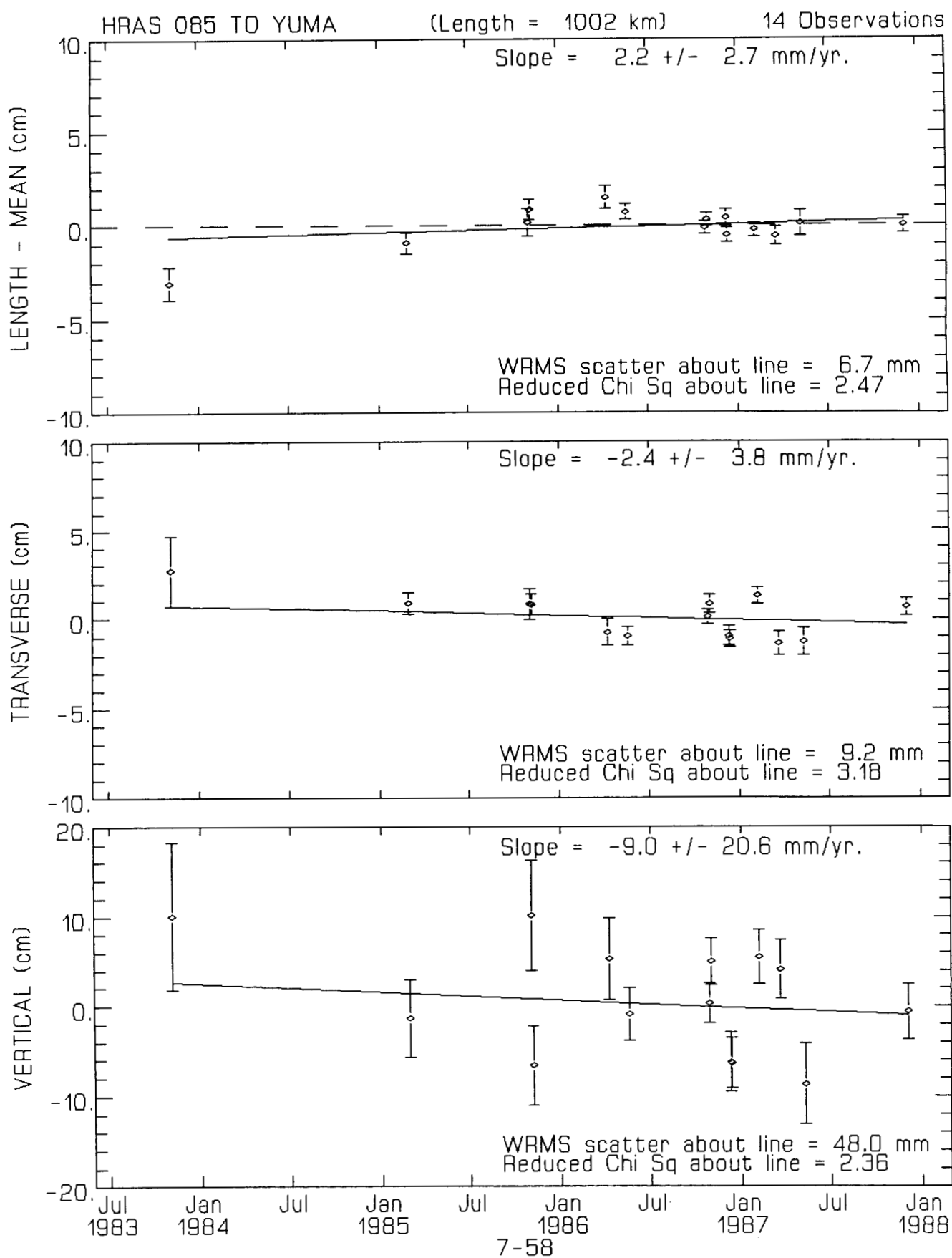


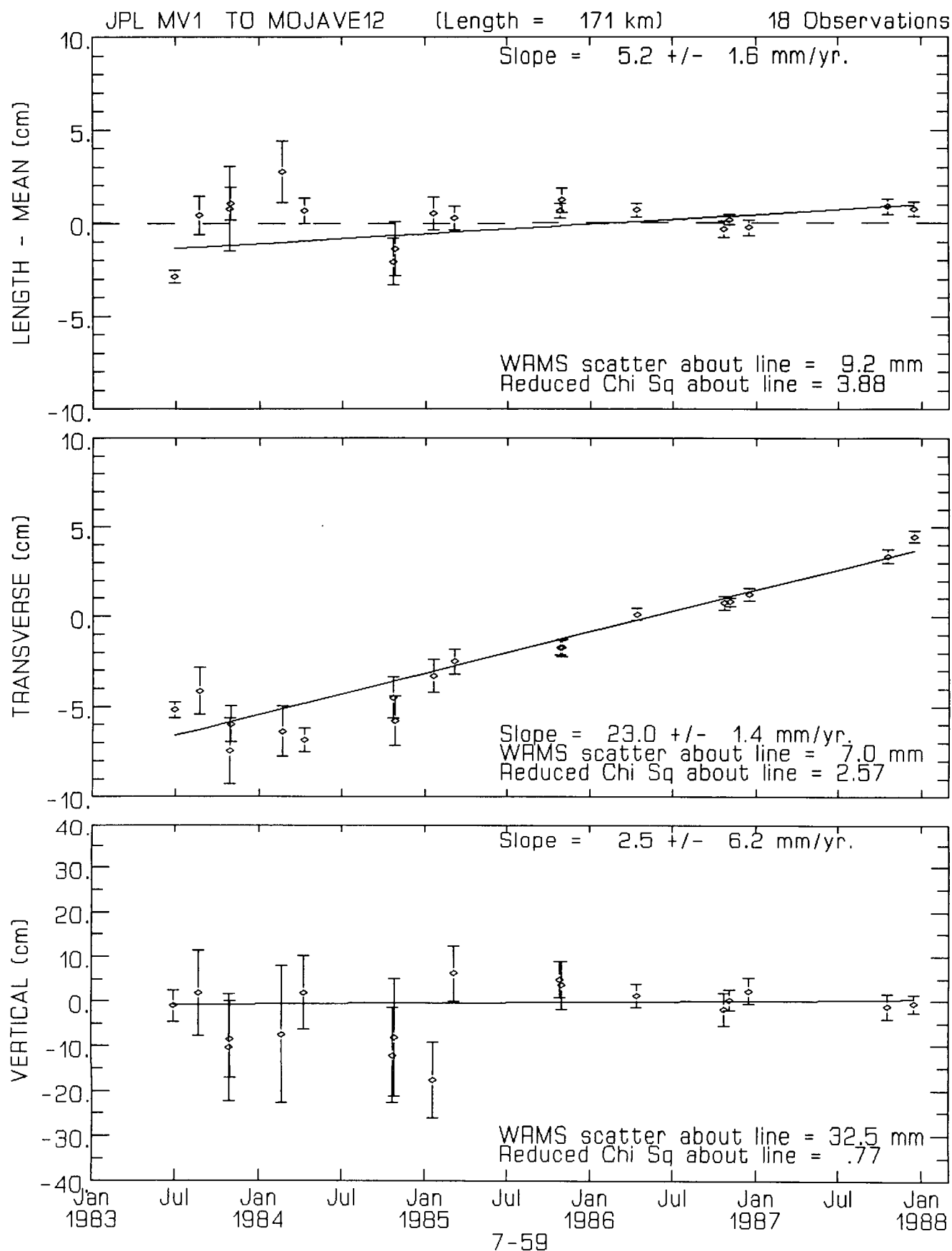


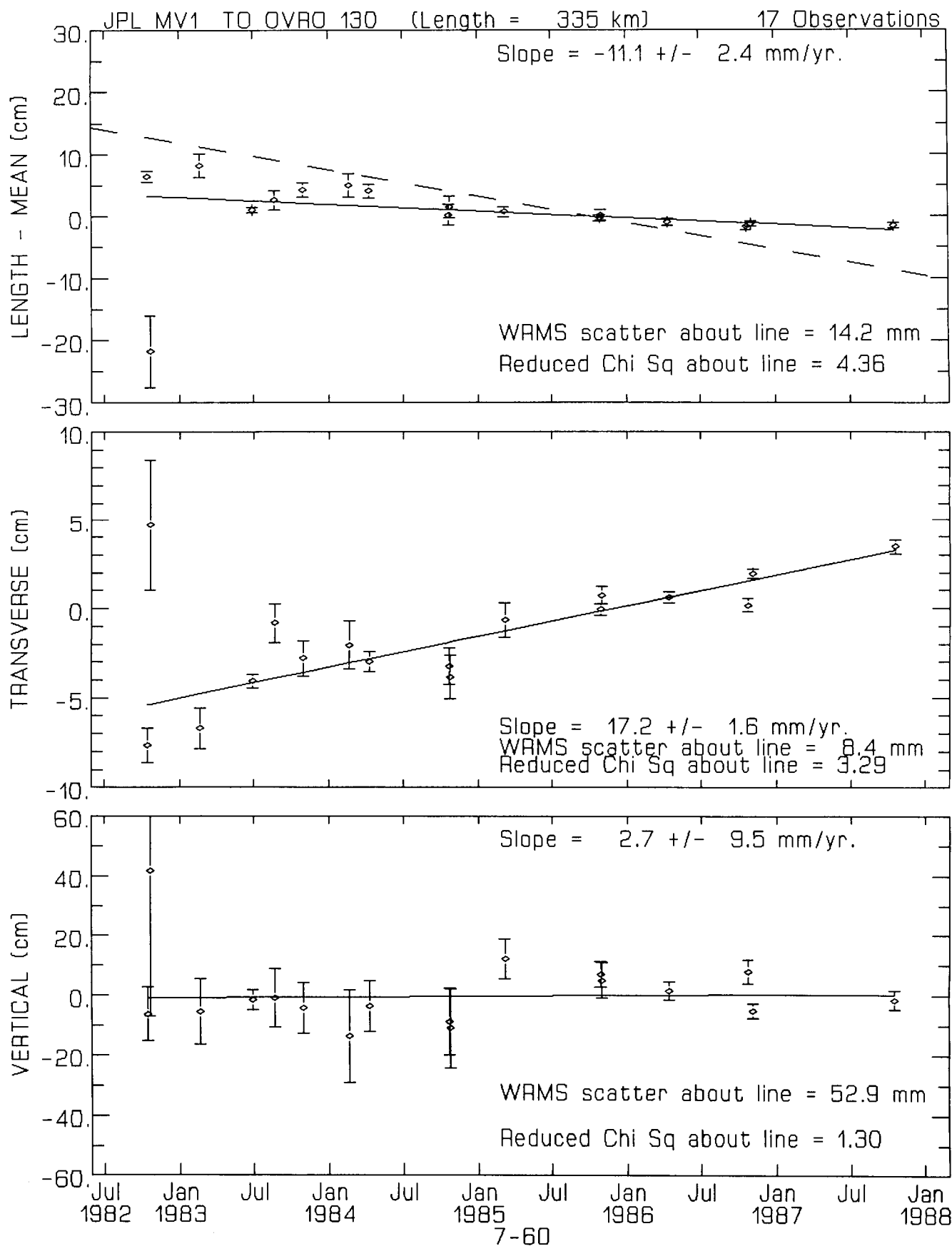


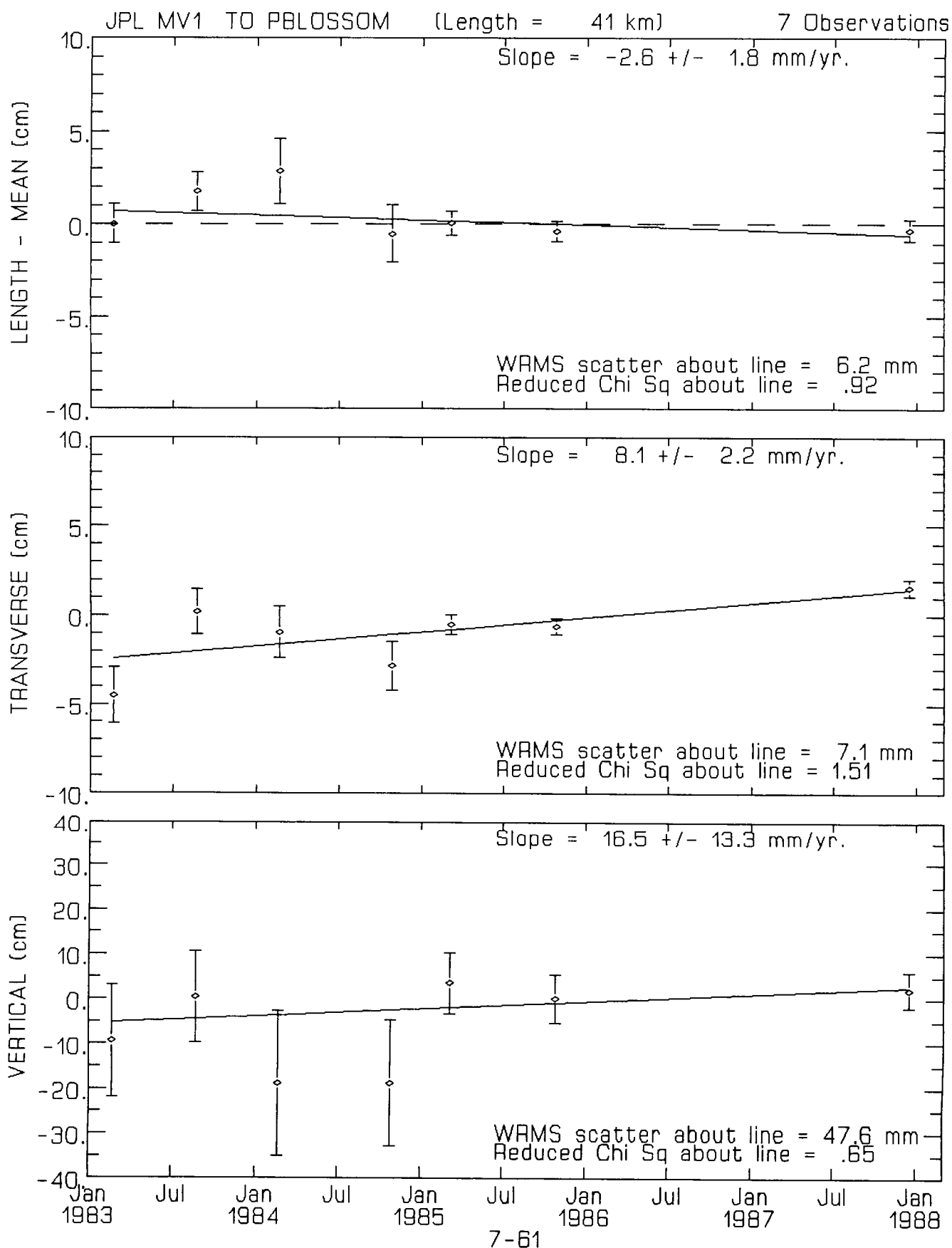


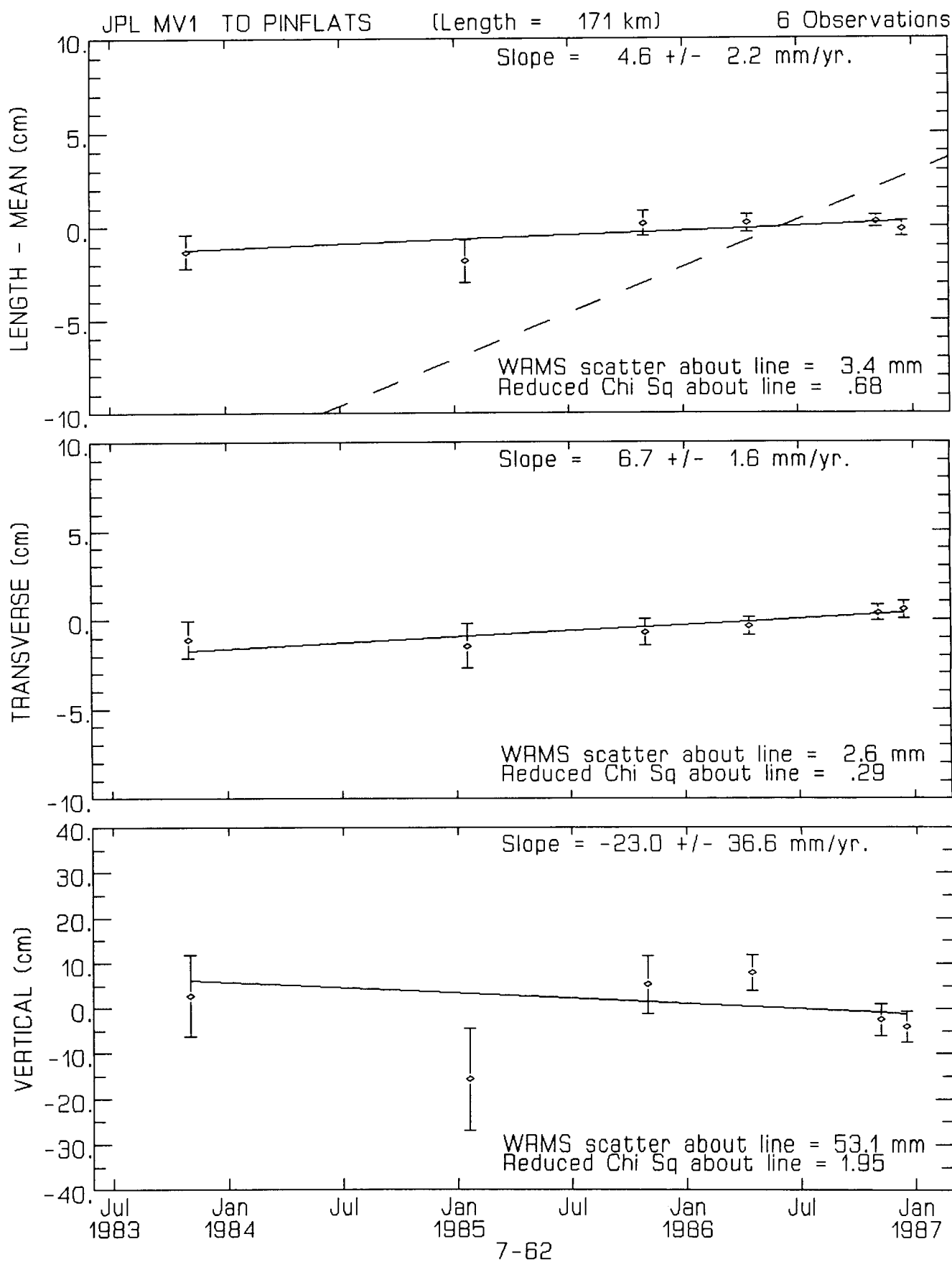


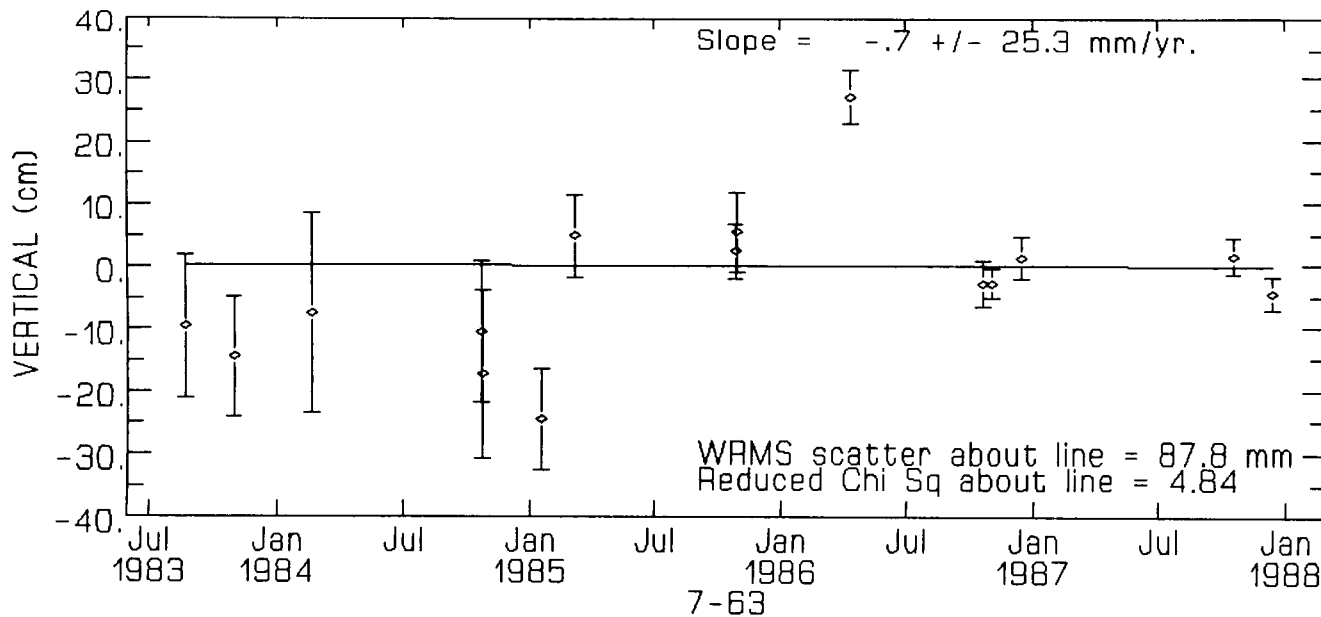
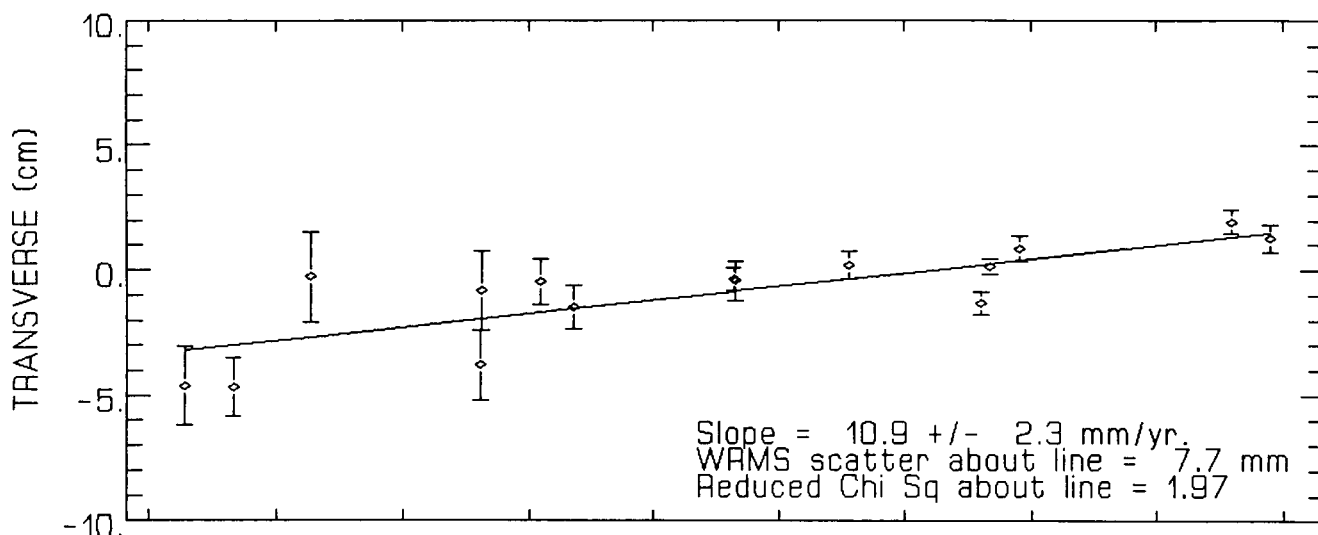
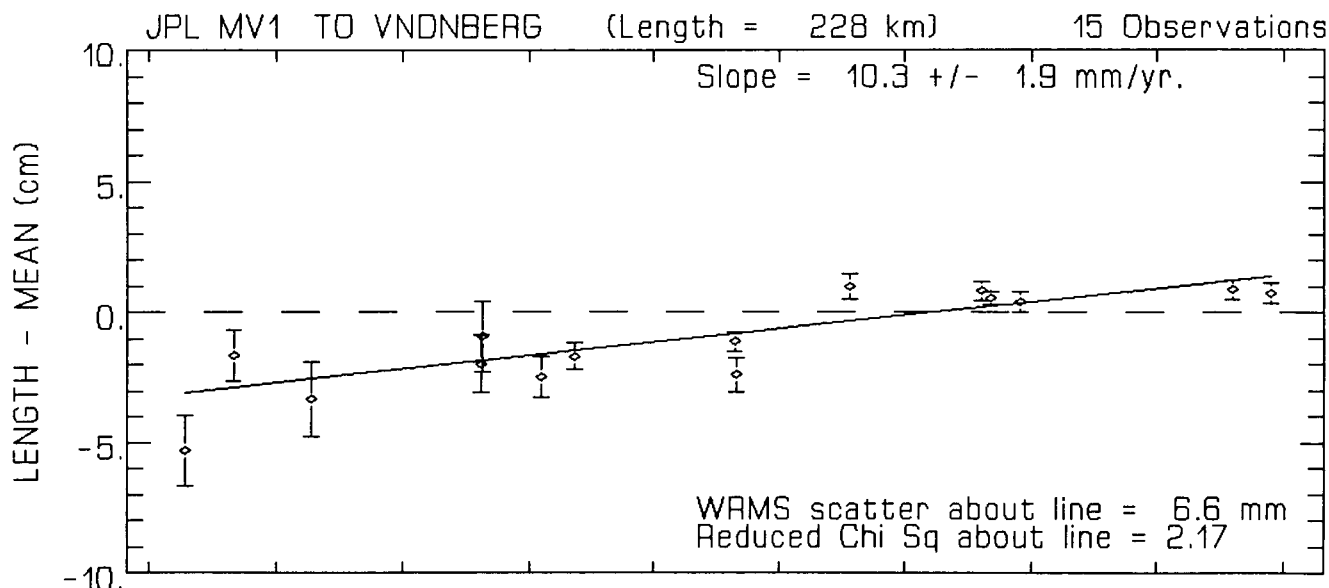


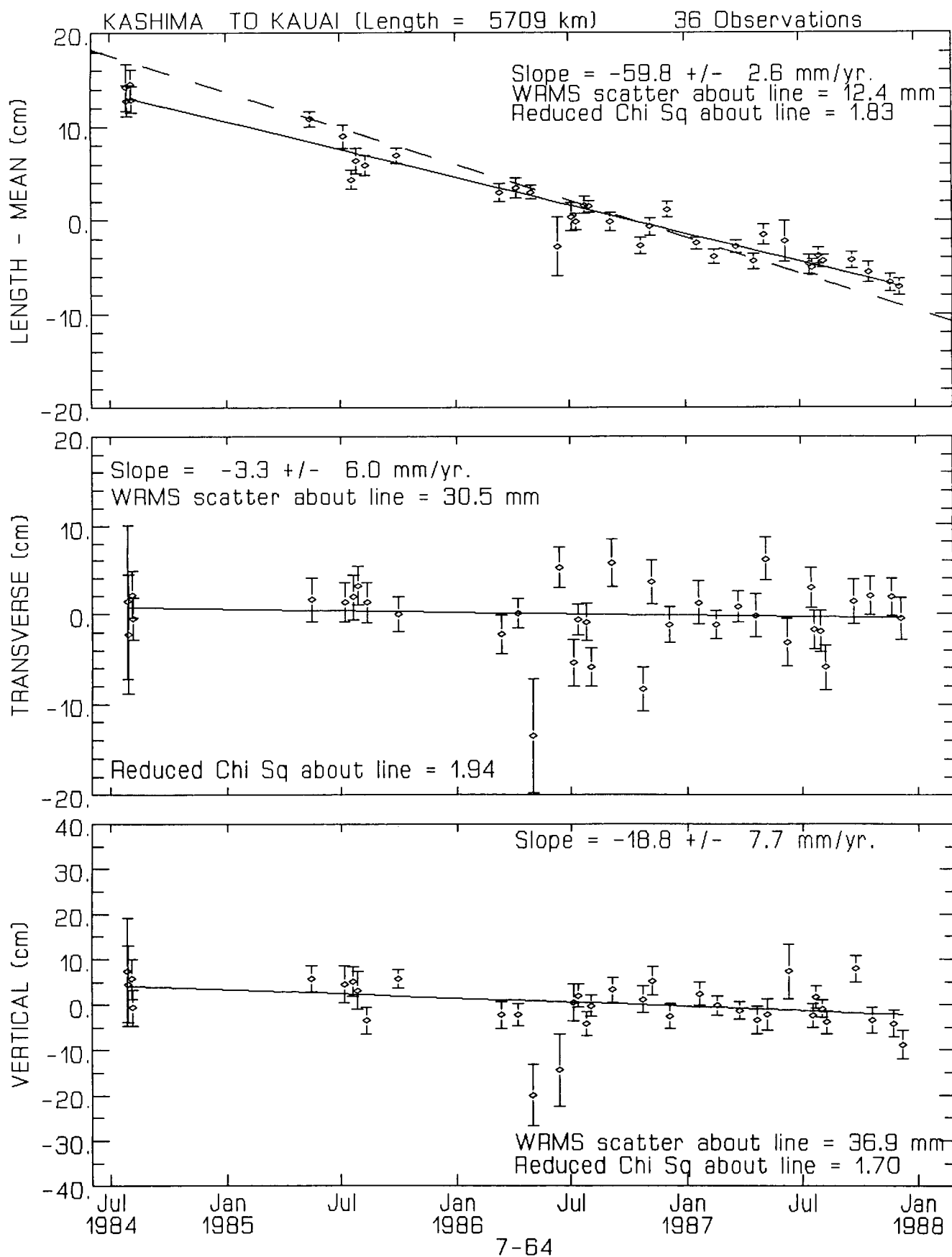


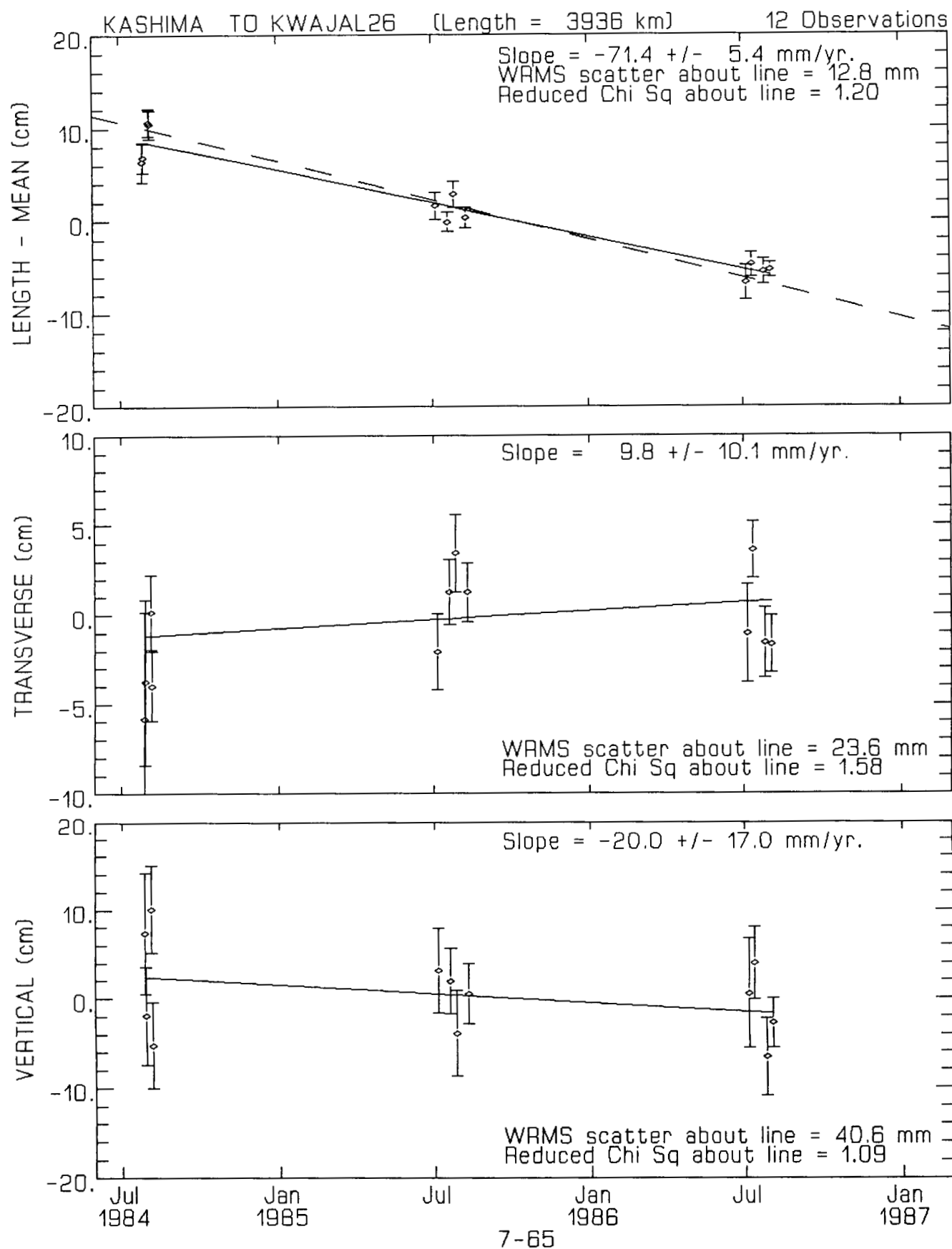


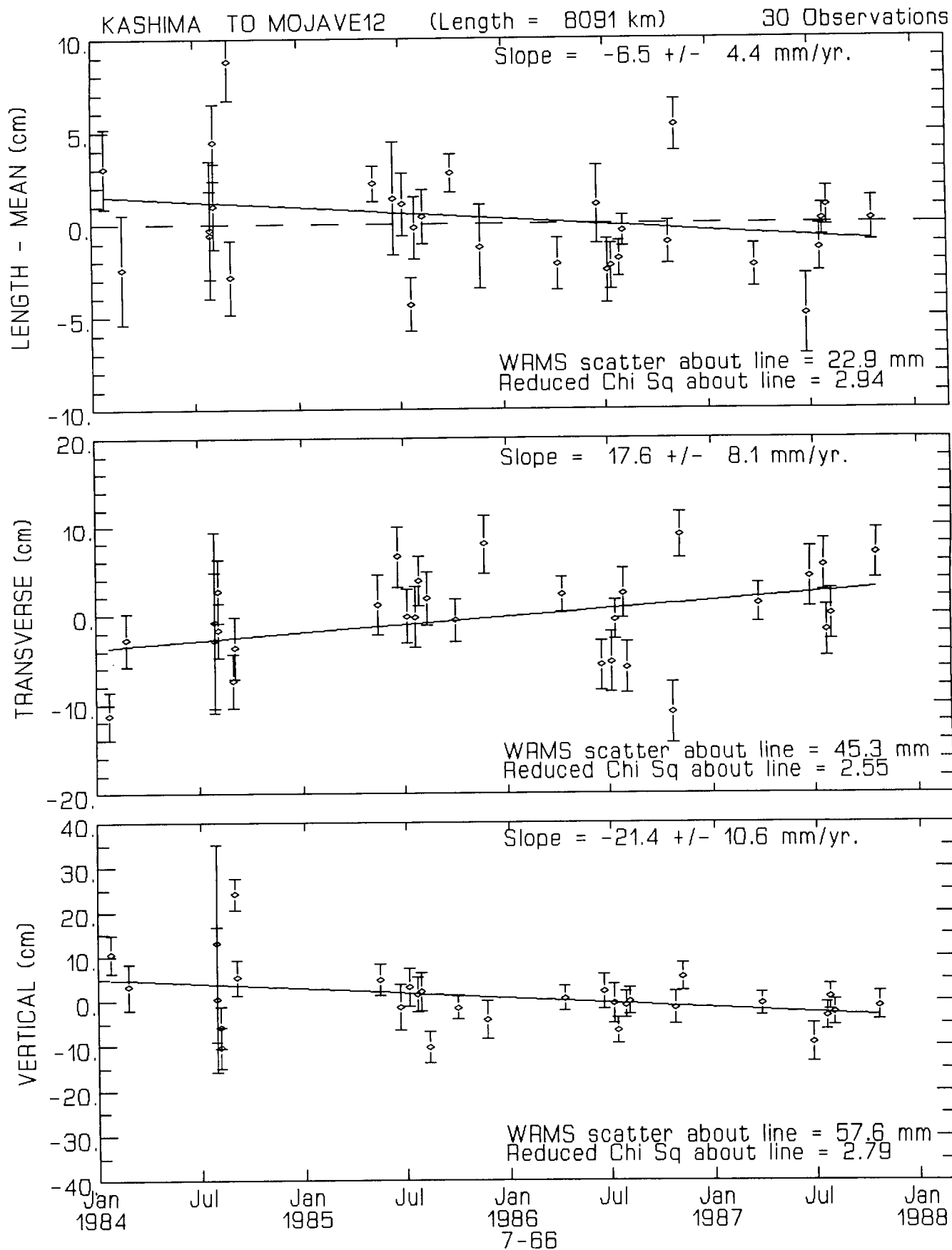


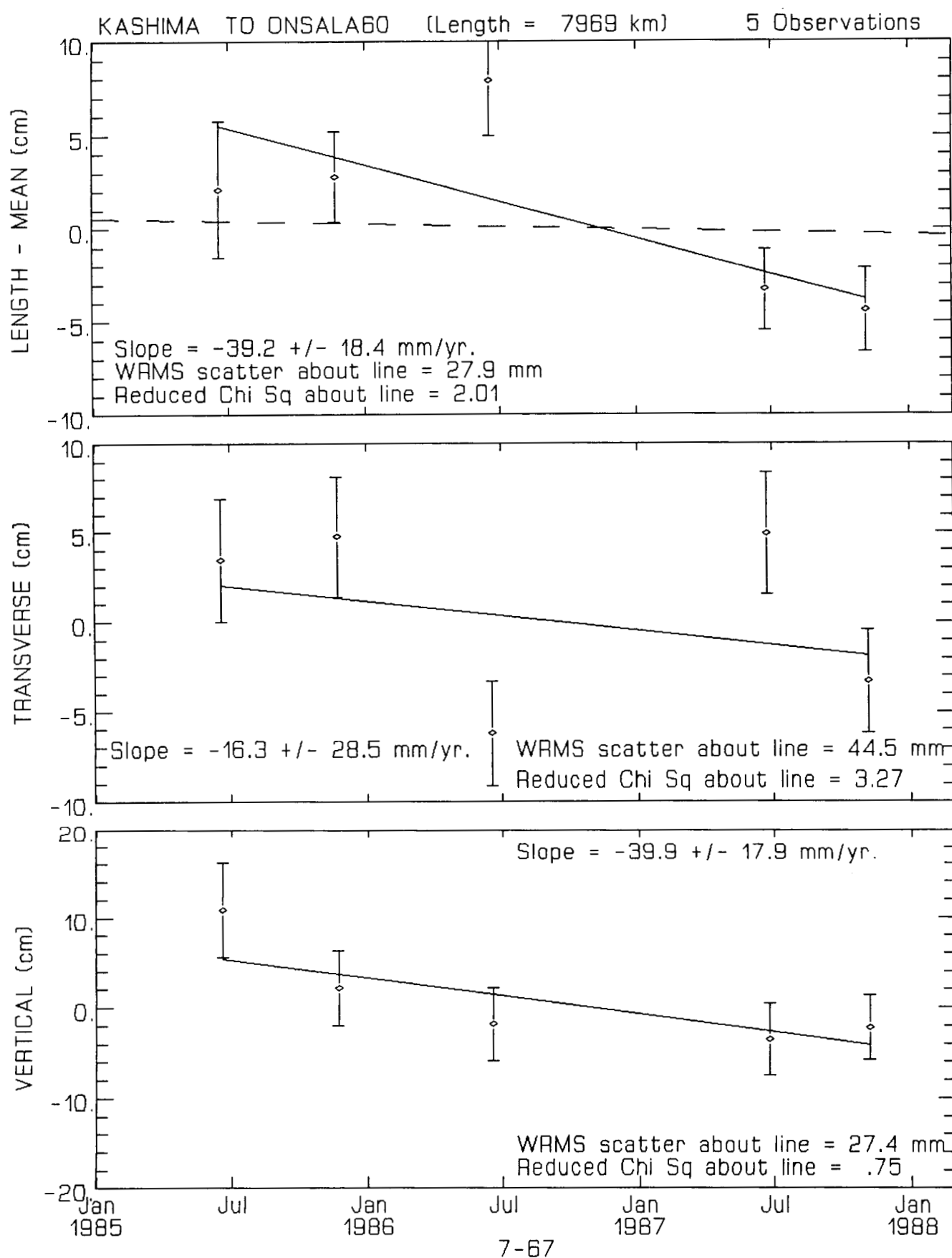


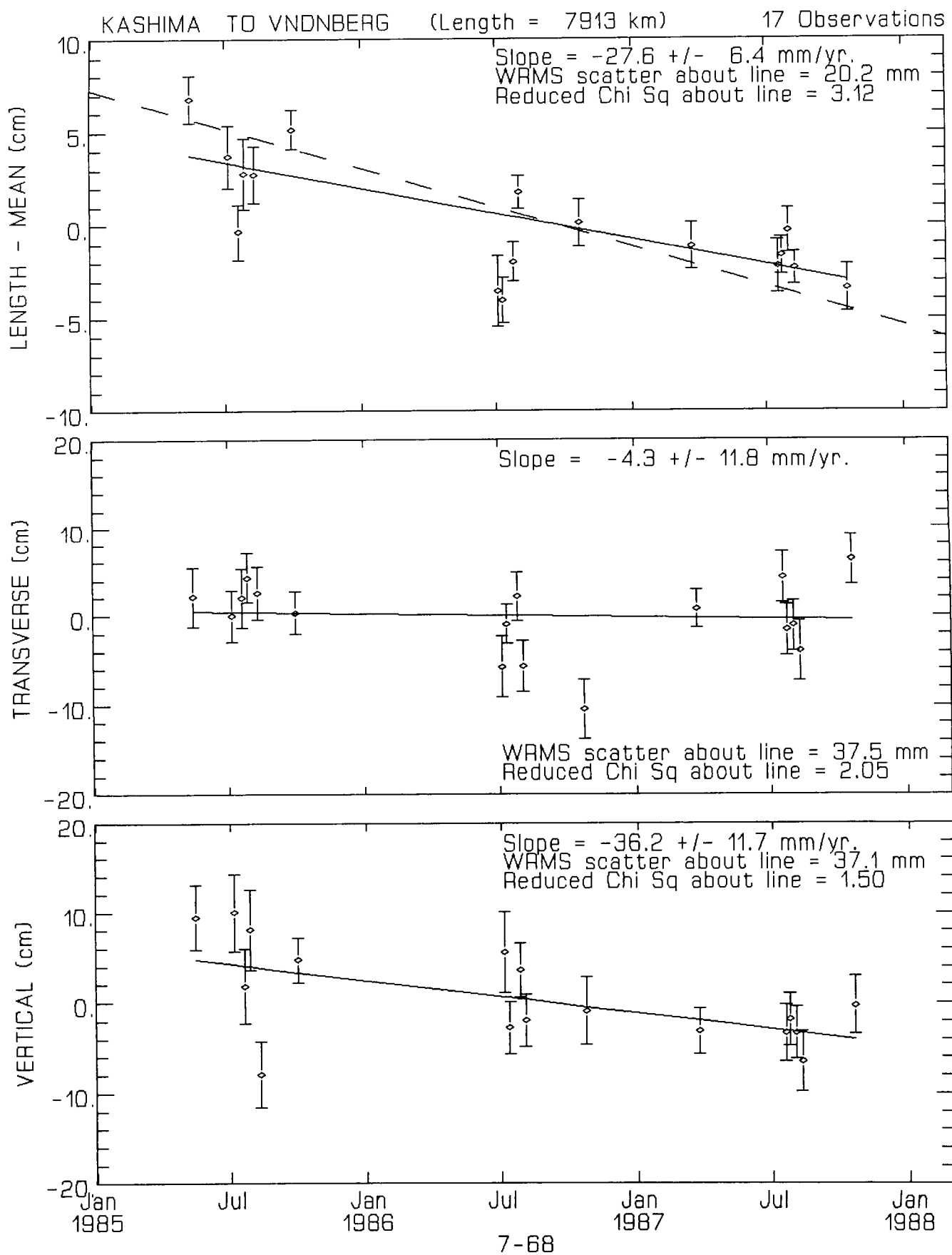


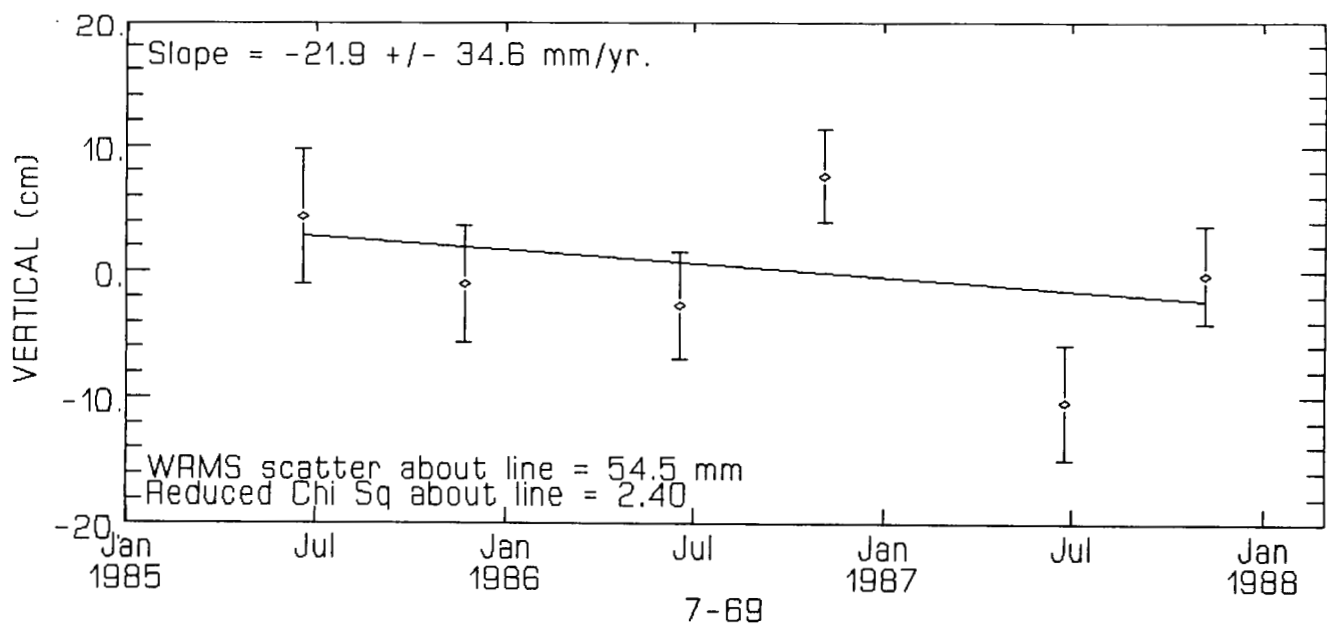
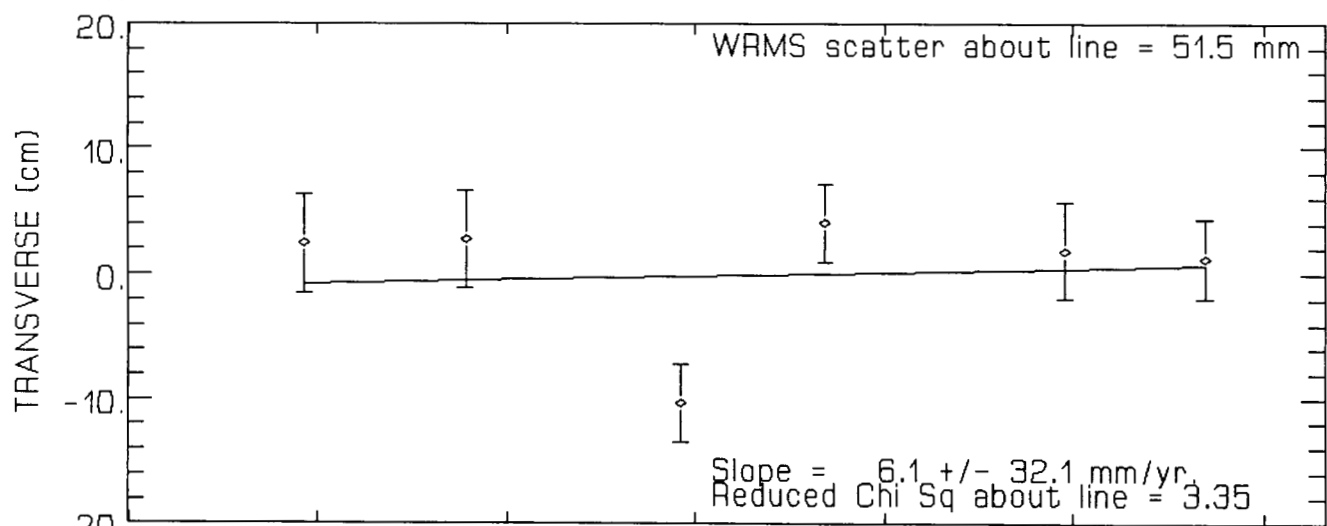
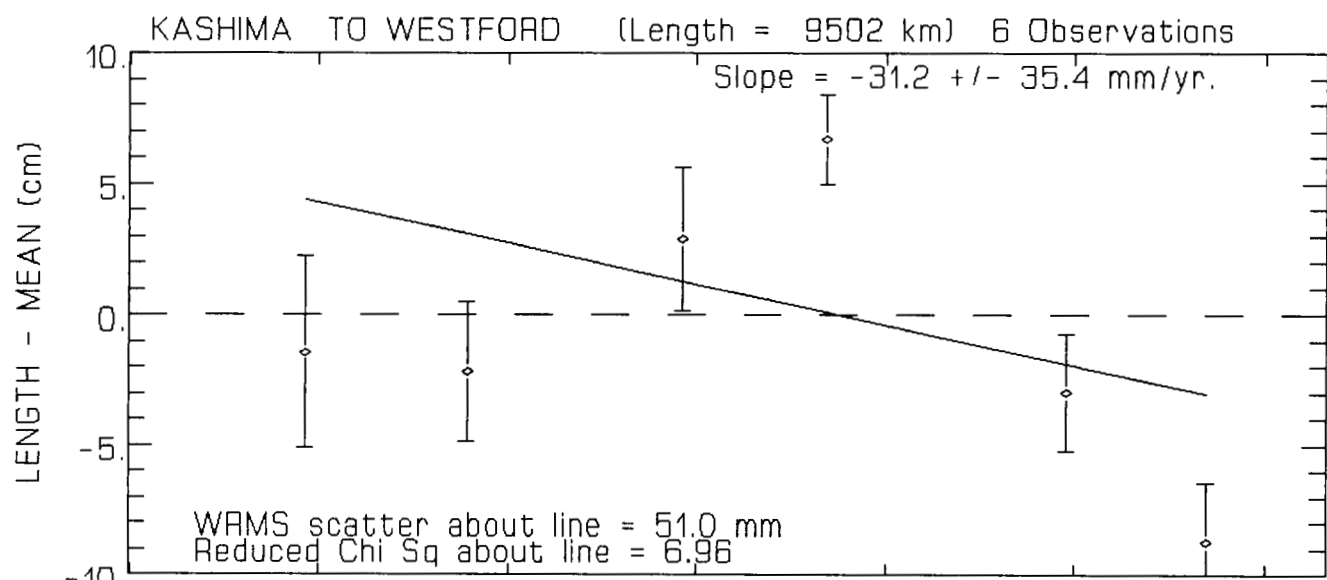


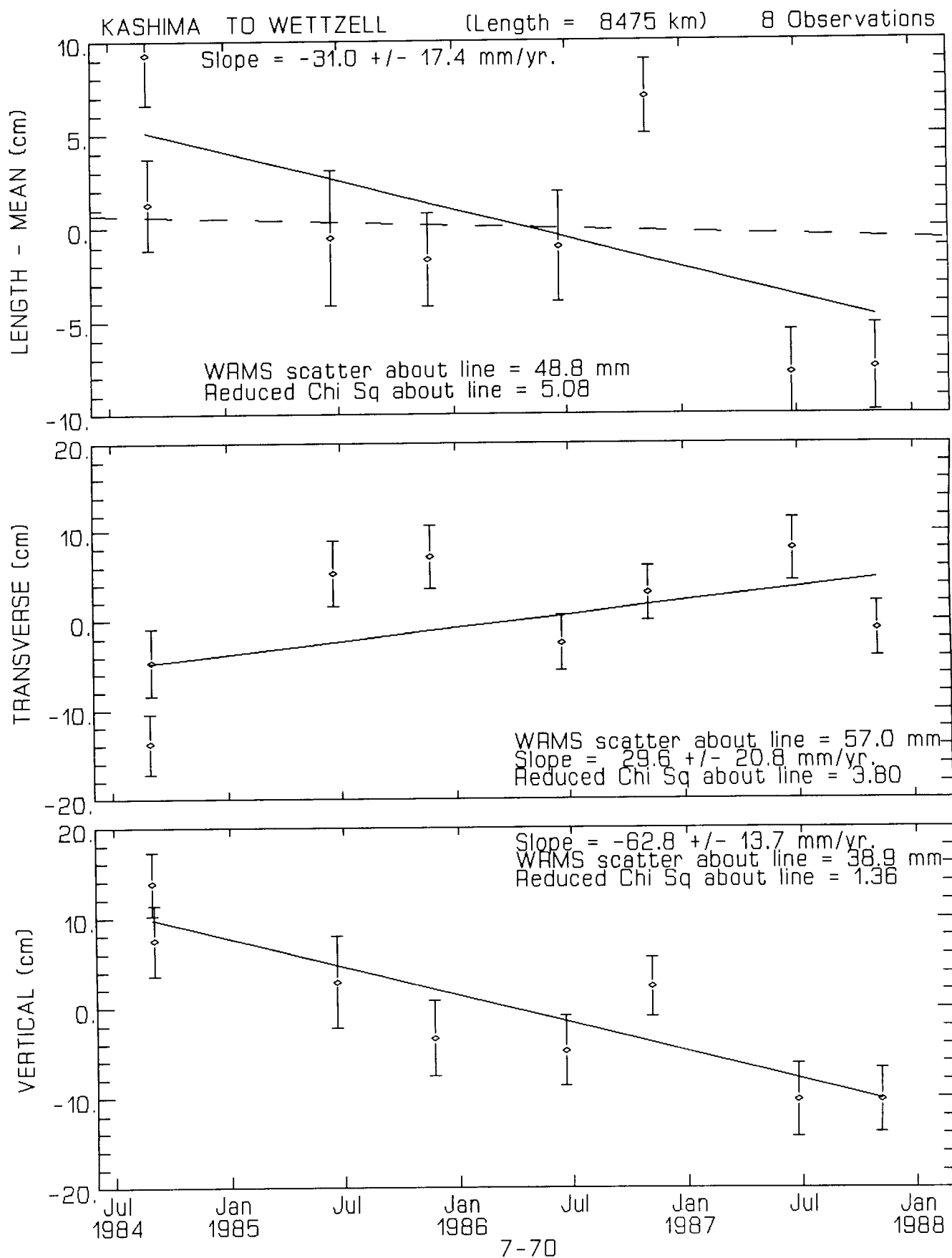


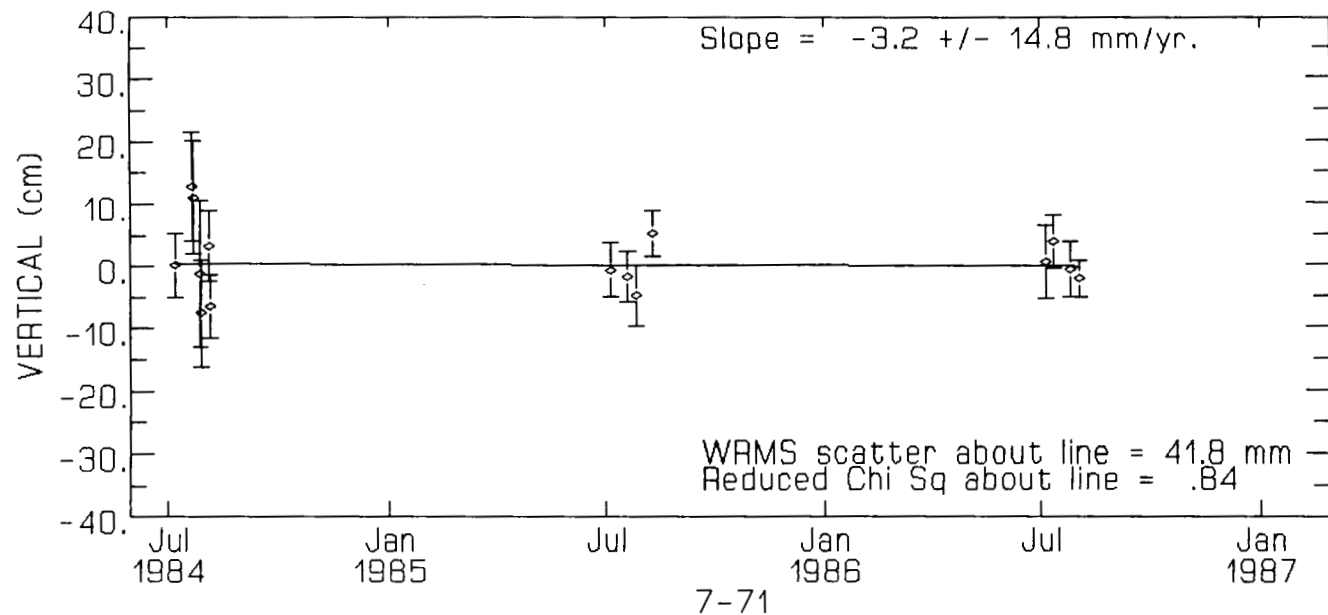
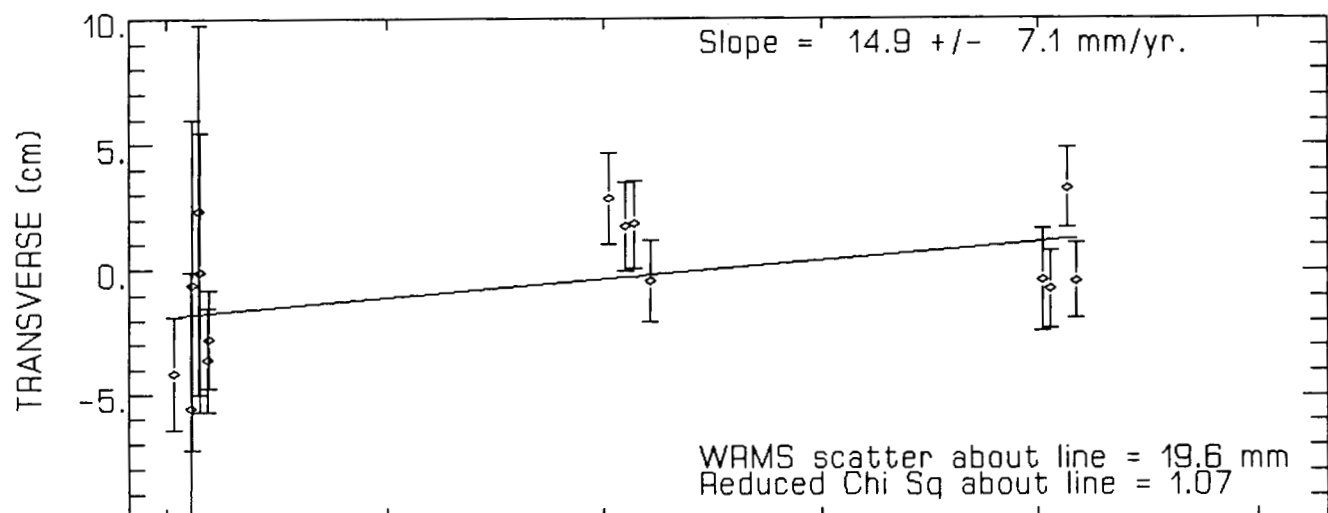
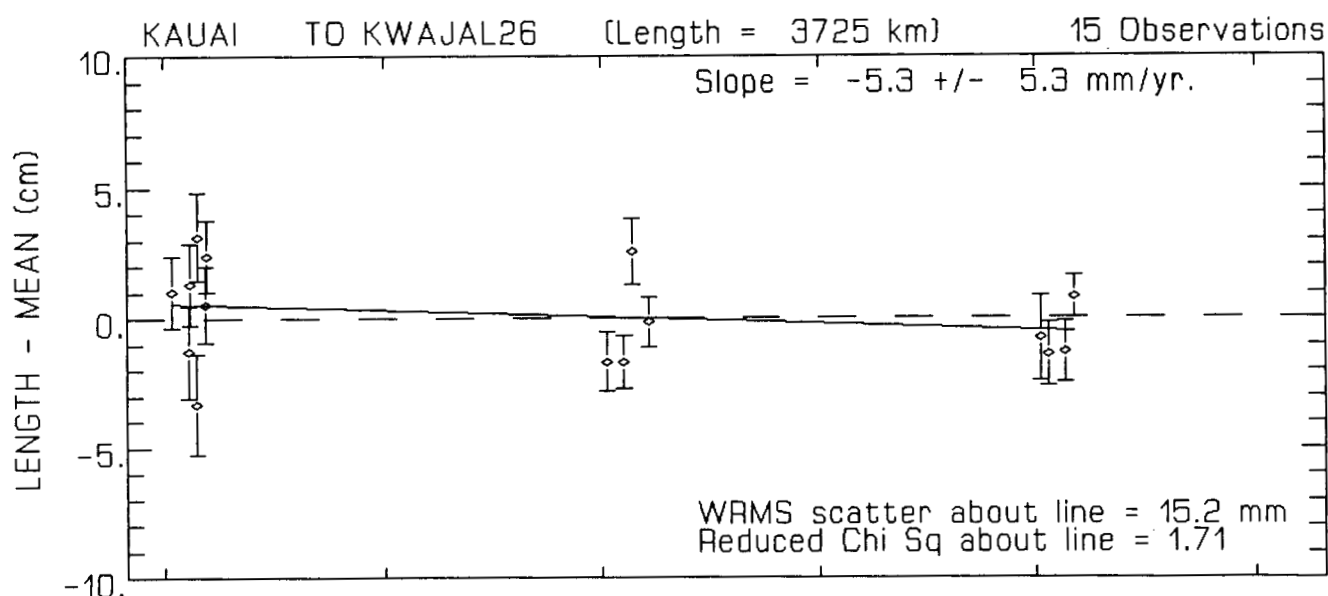


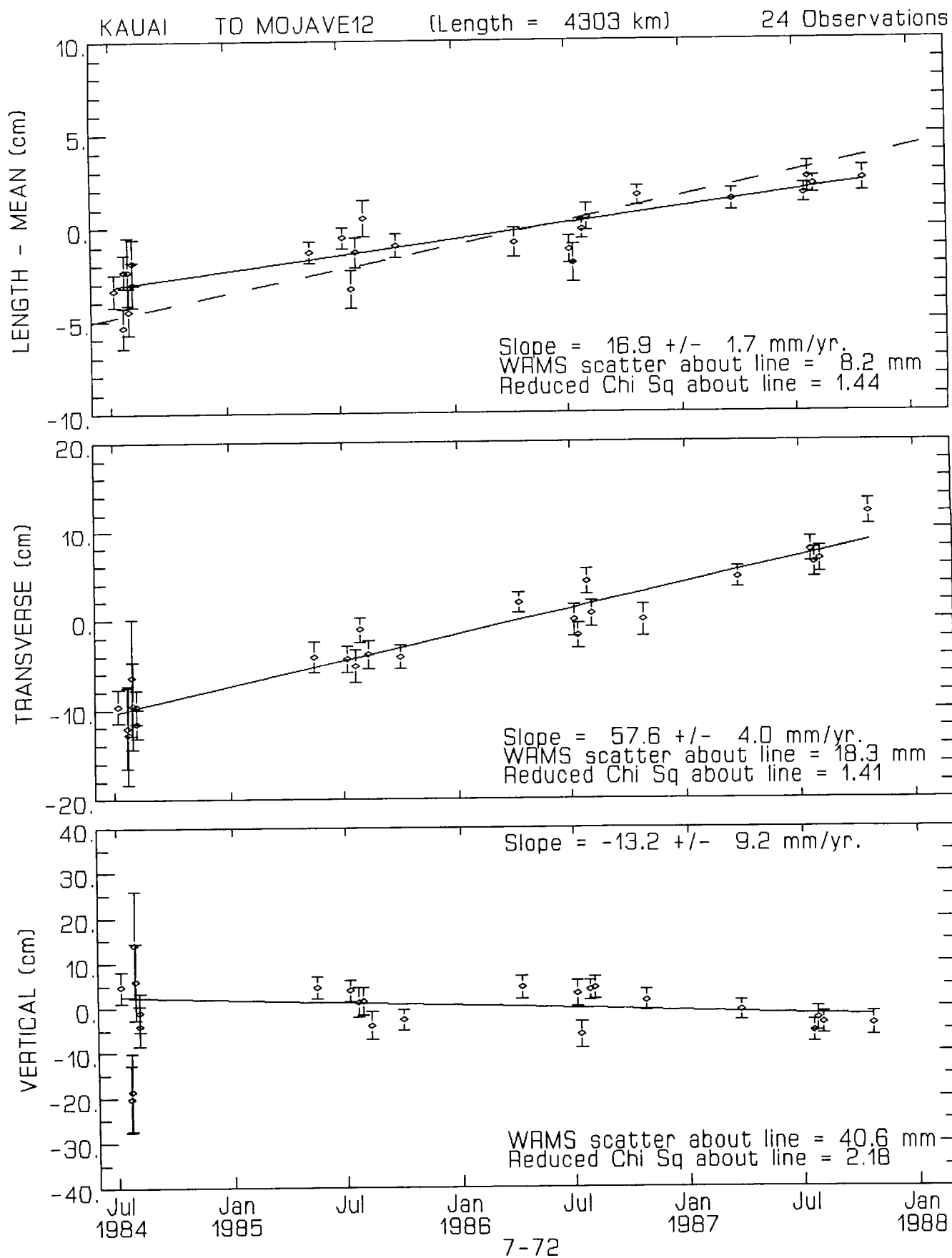


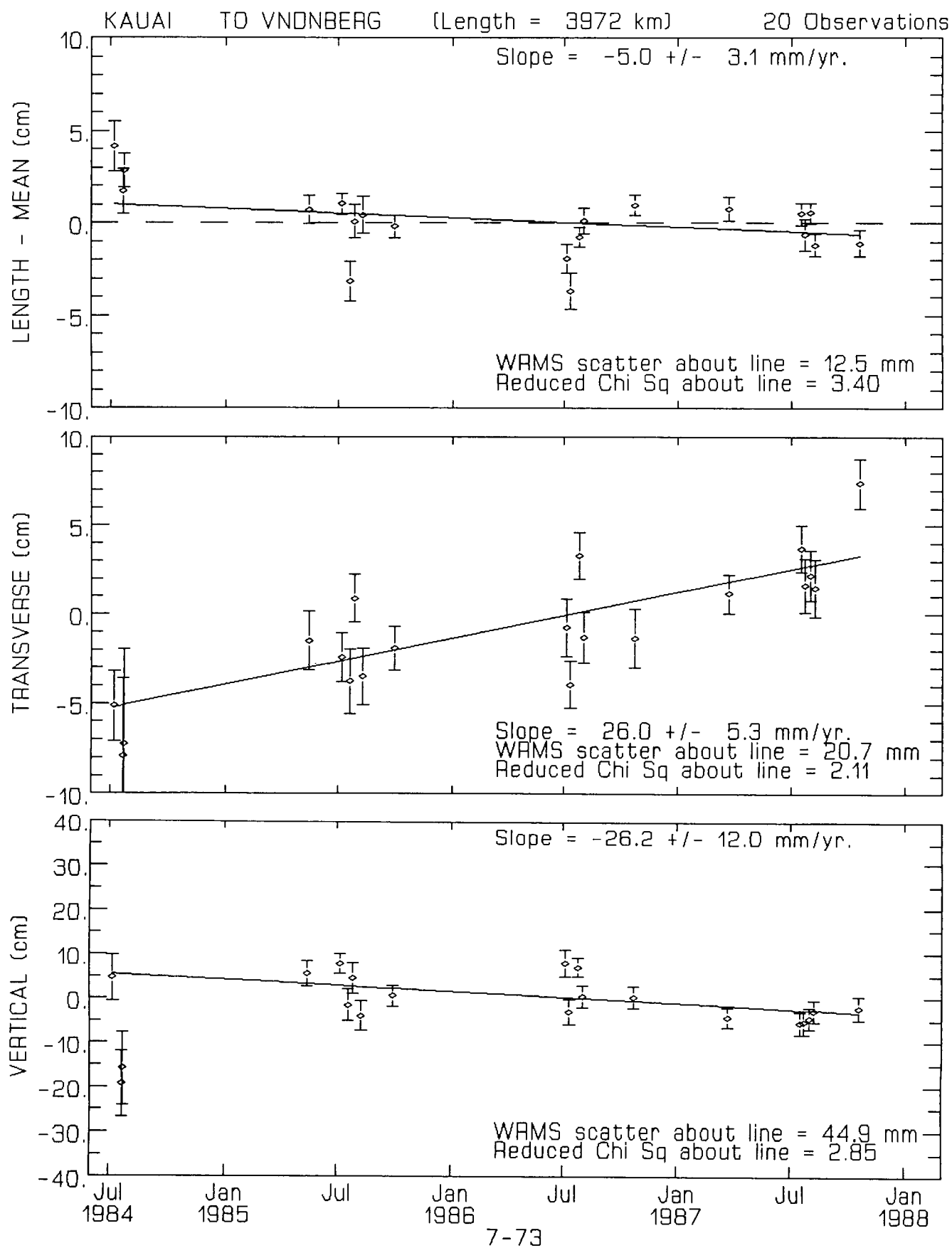


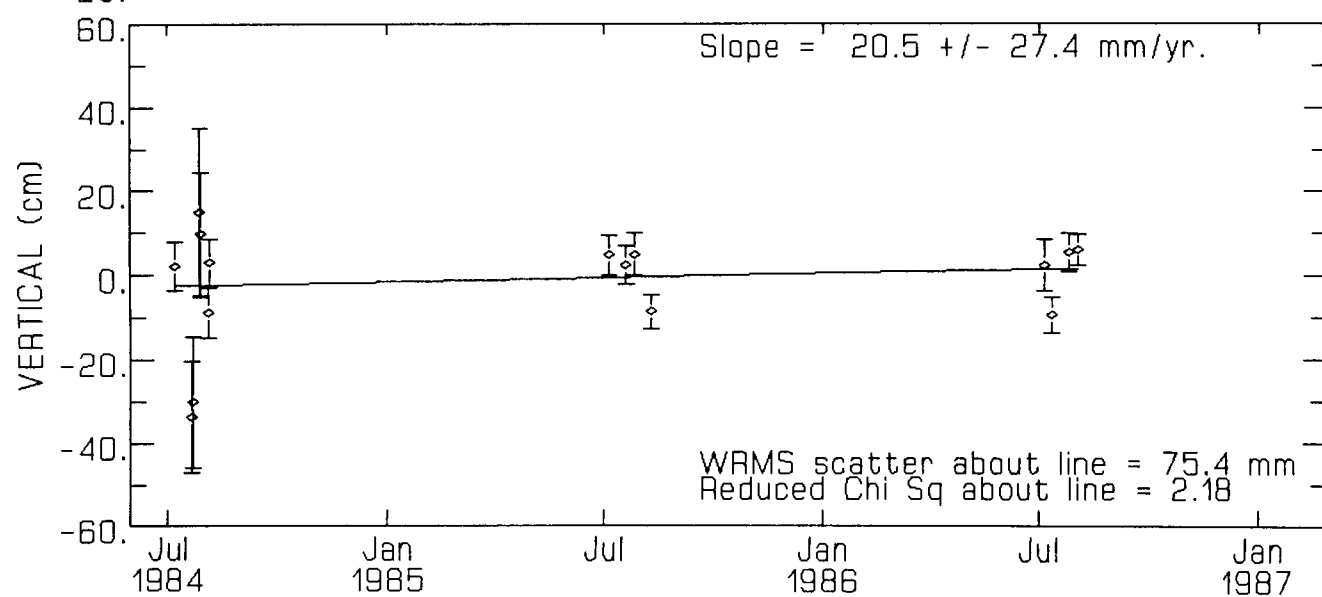
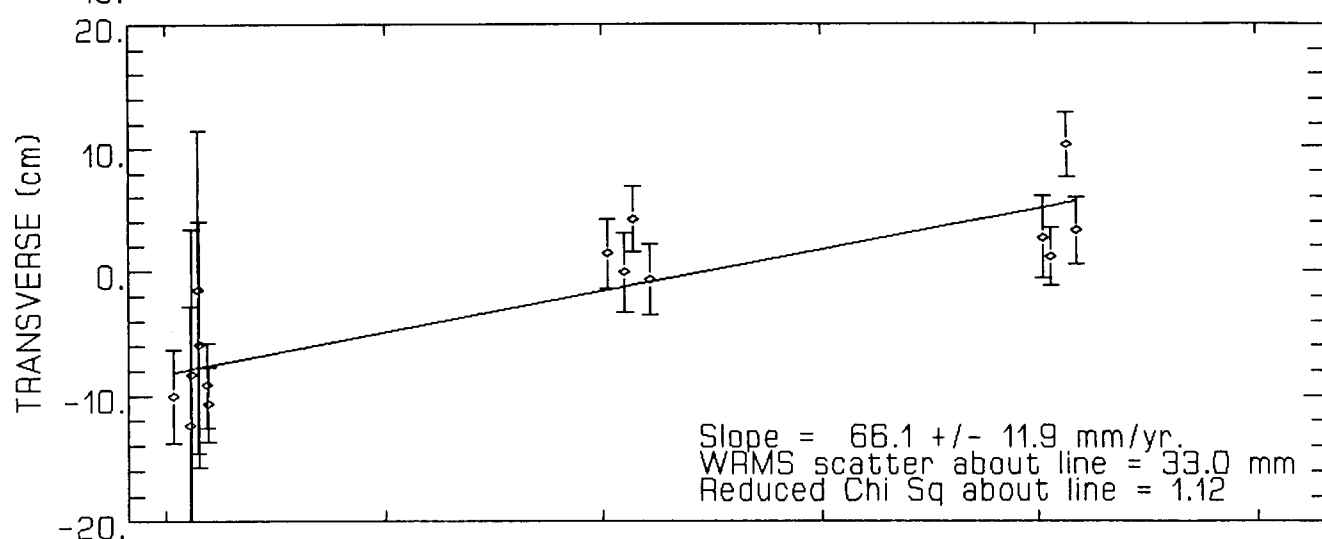
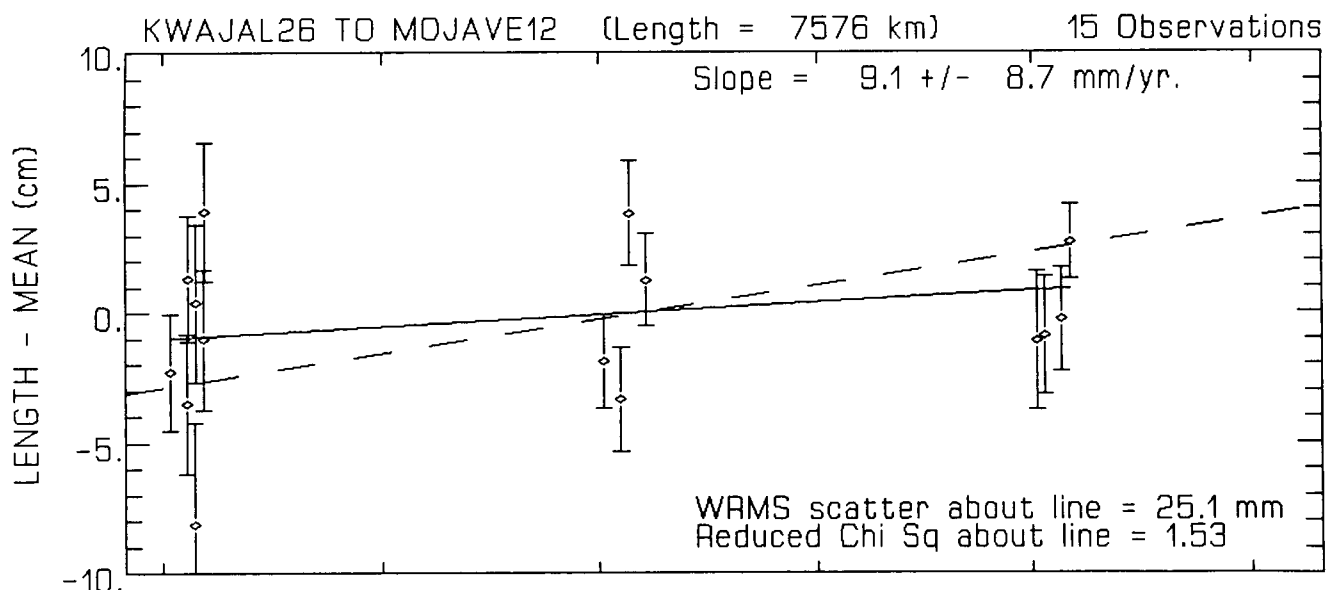


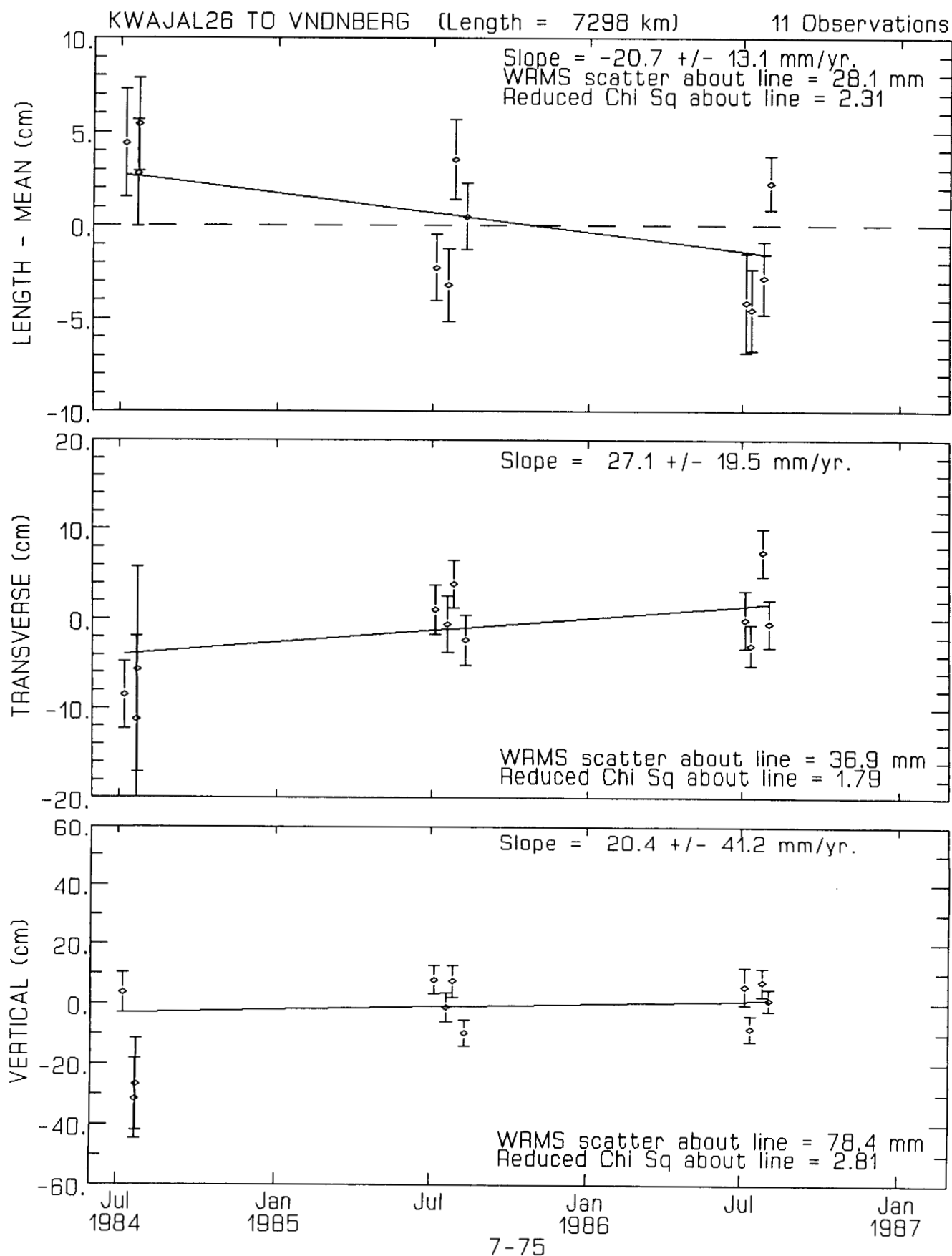






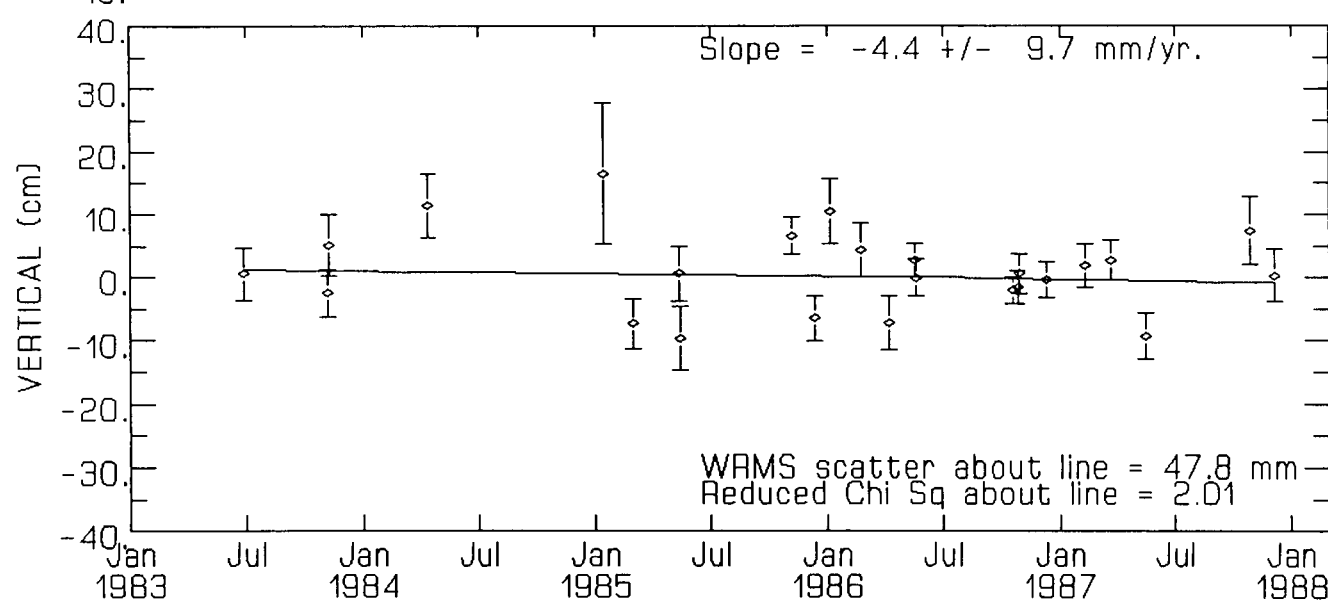
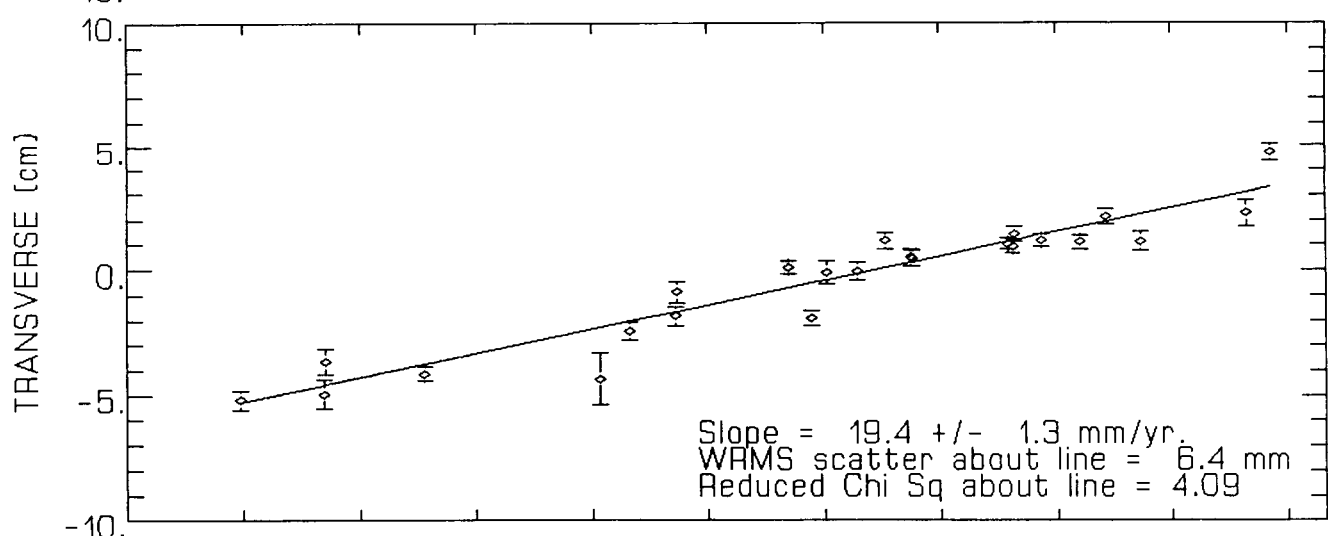
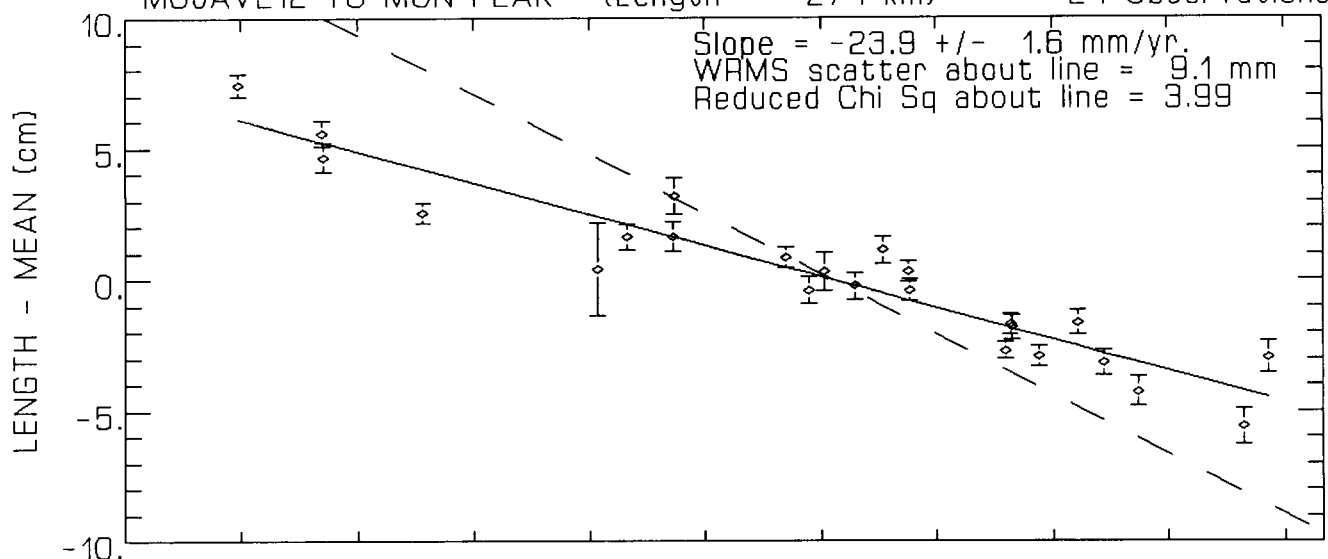


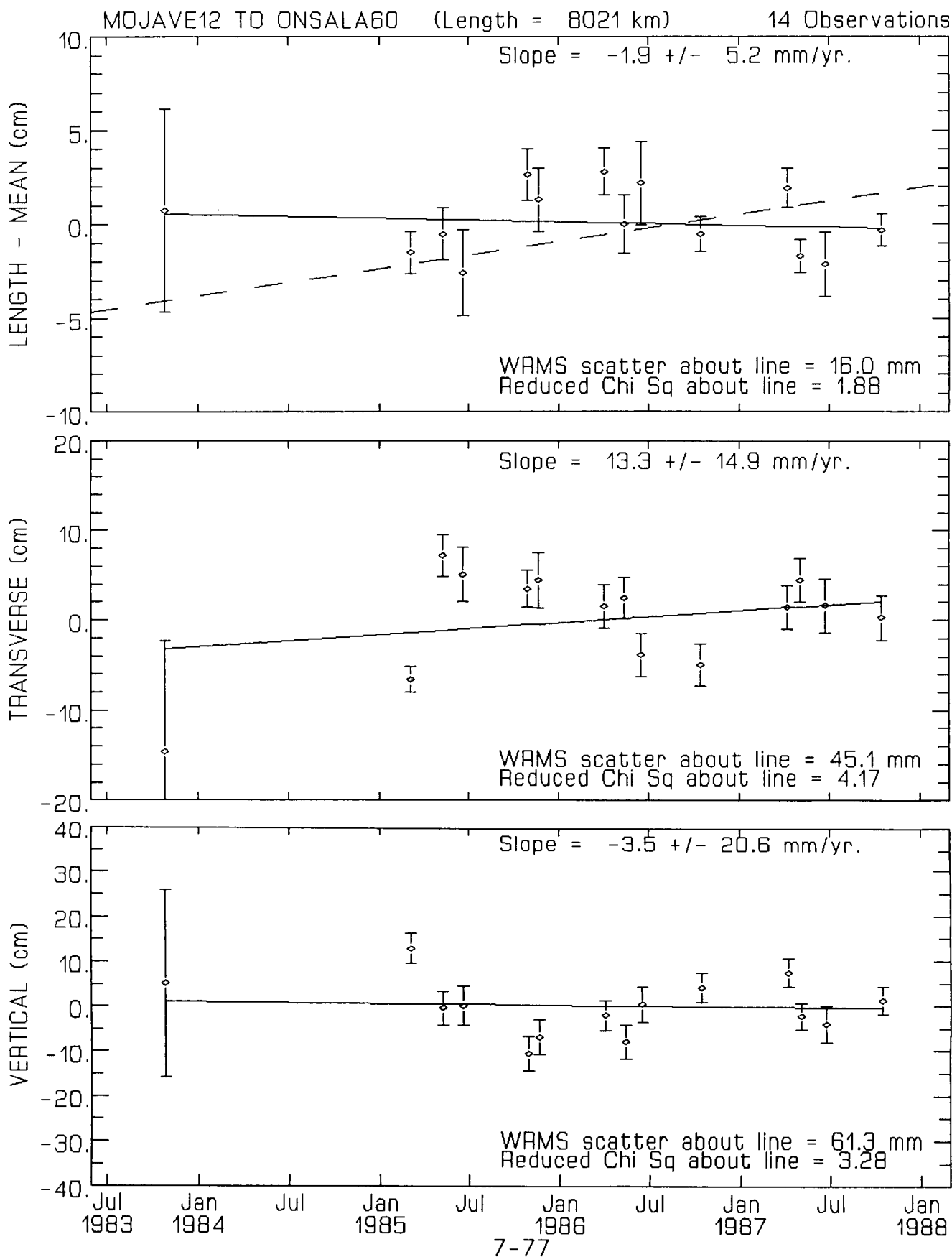


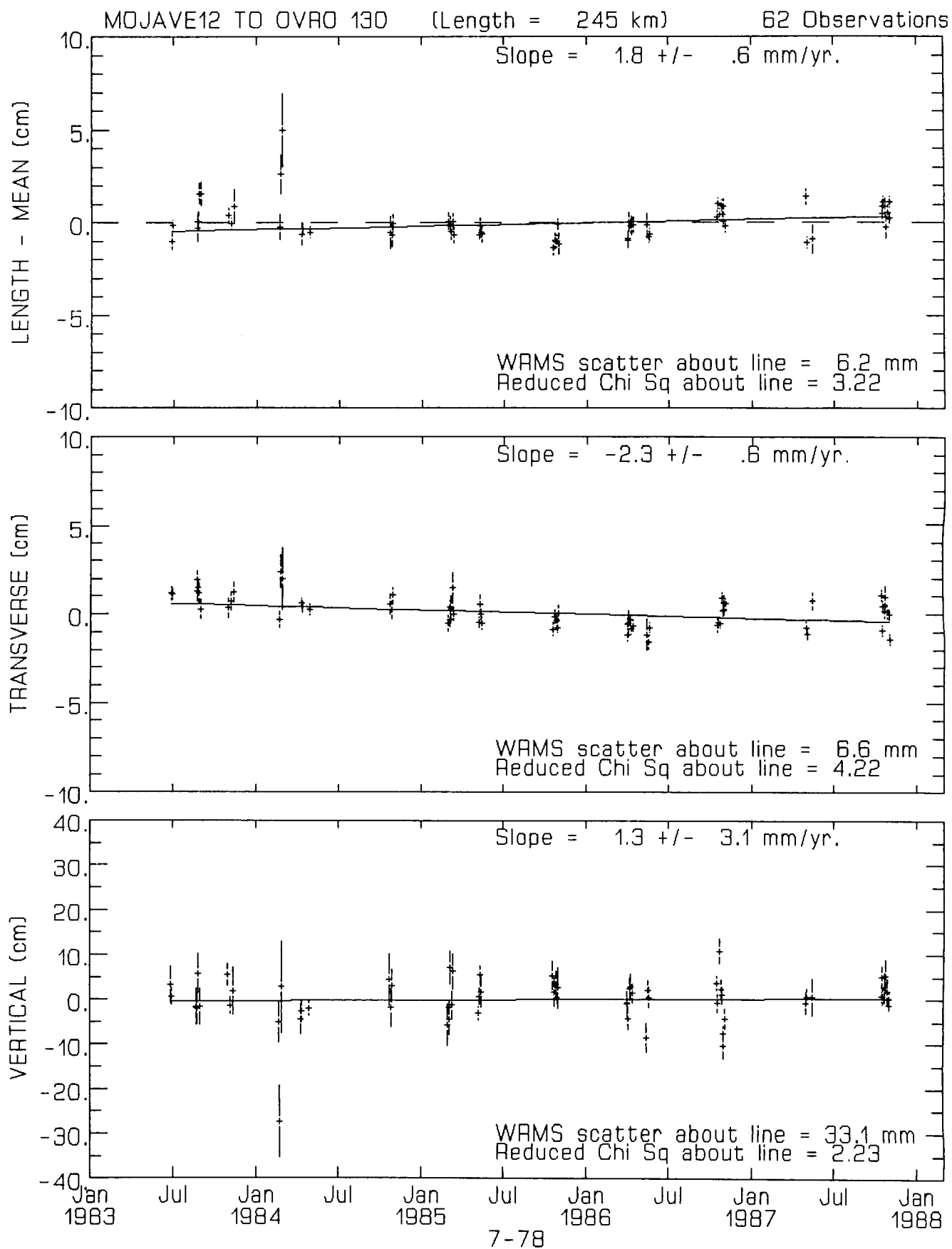


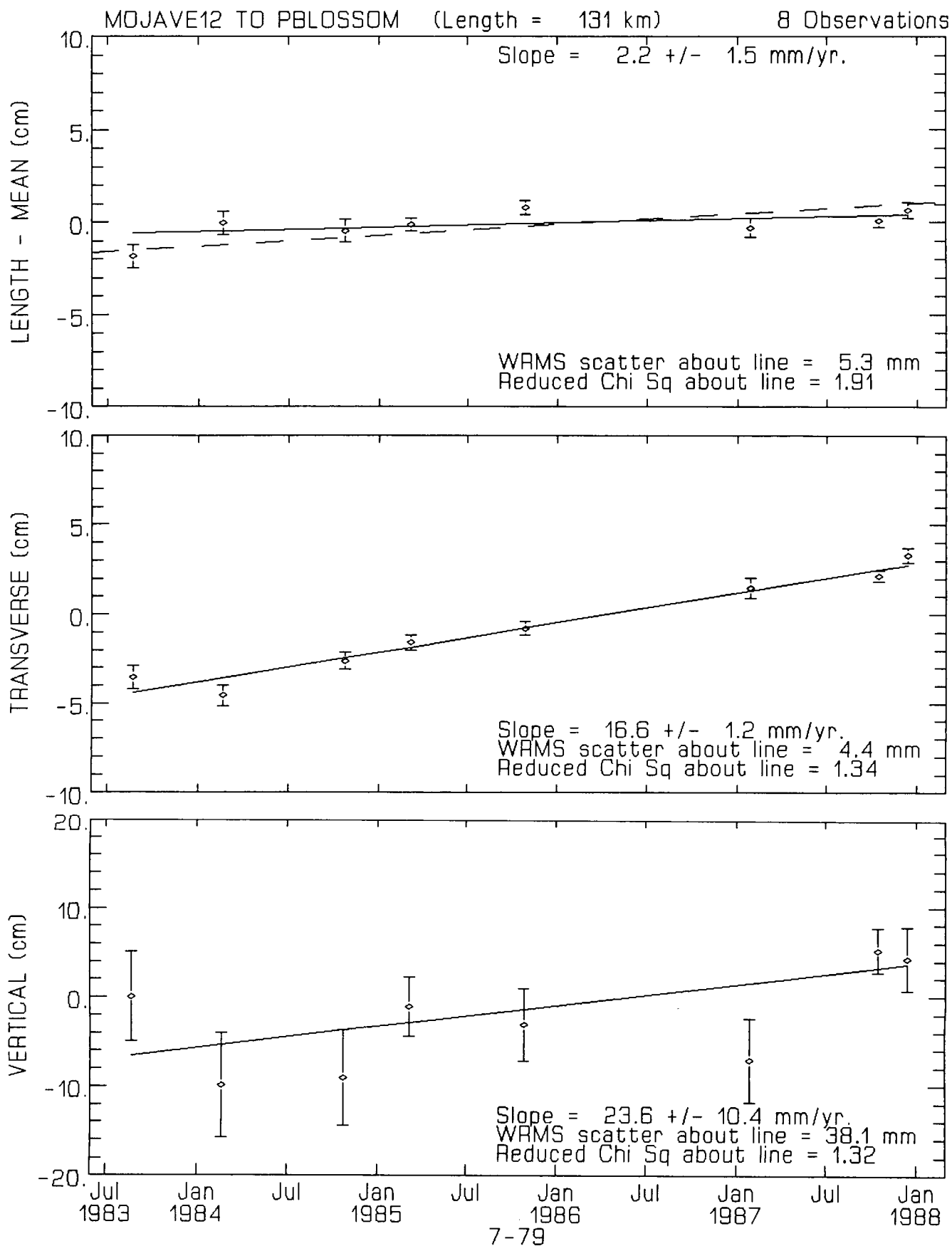
MOJAVE12 TO MON PEAK (Length = 274 km)

24 Observations



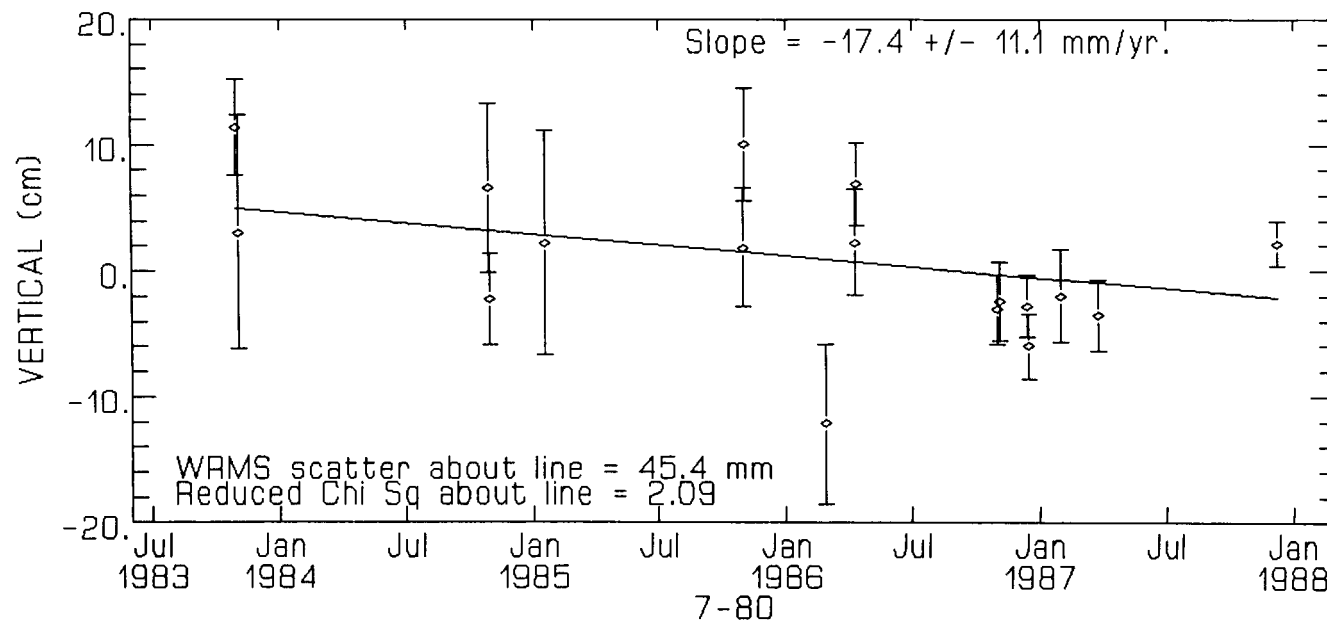
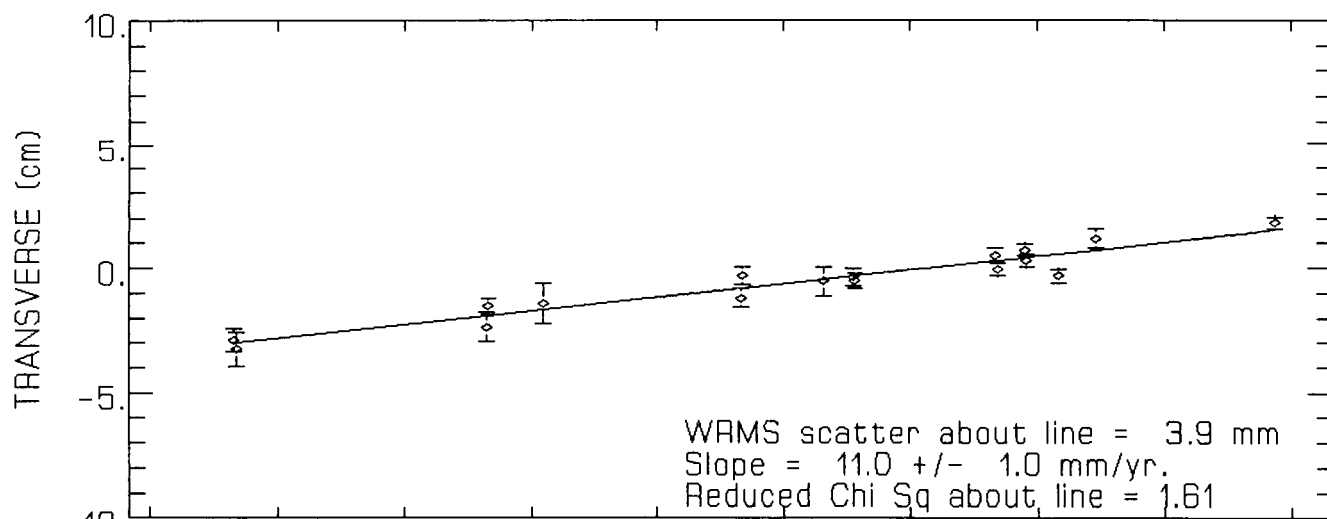
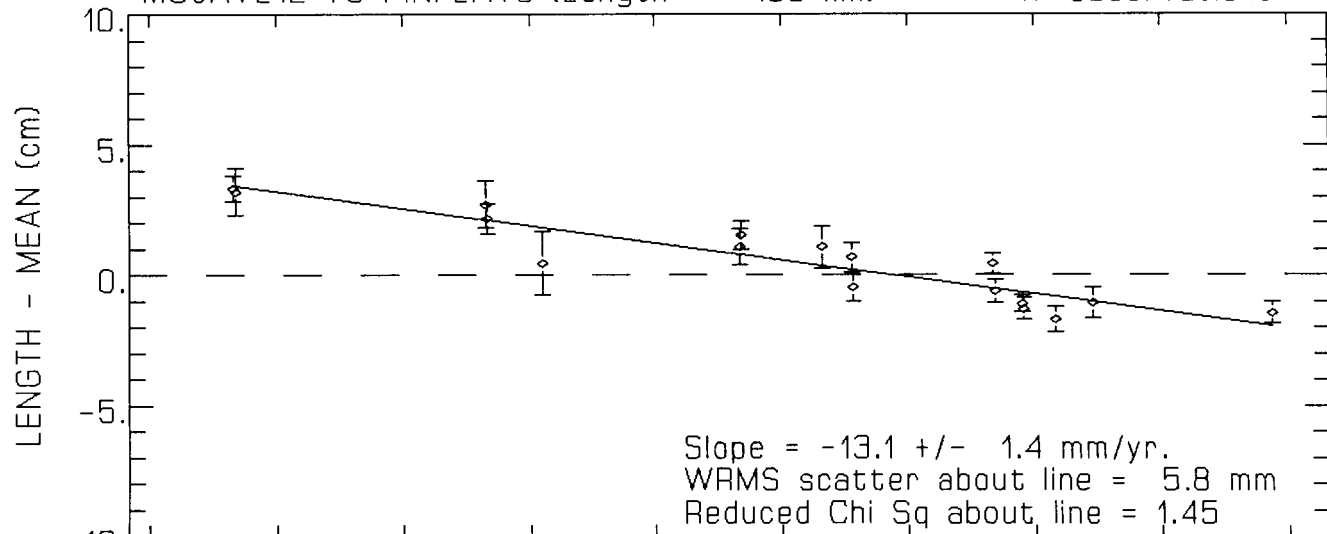


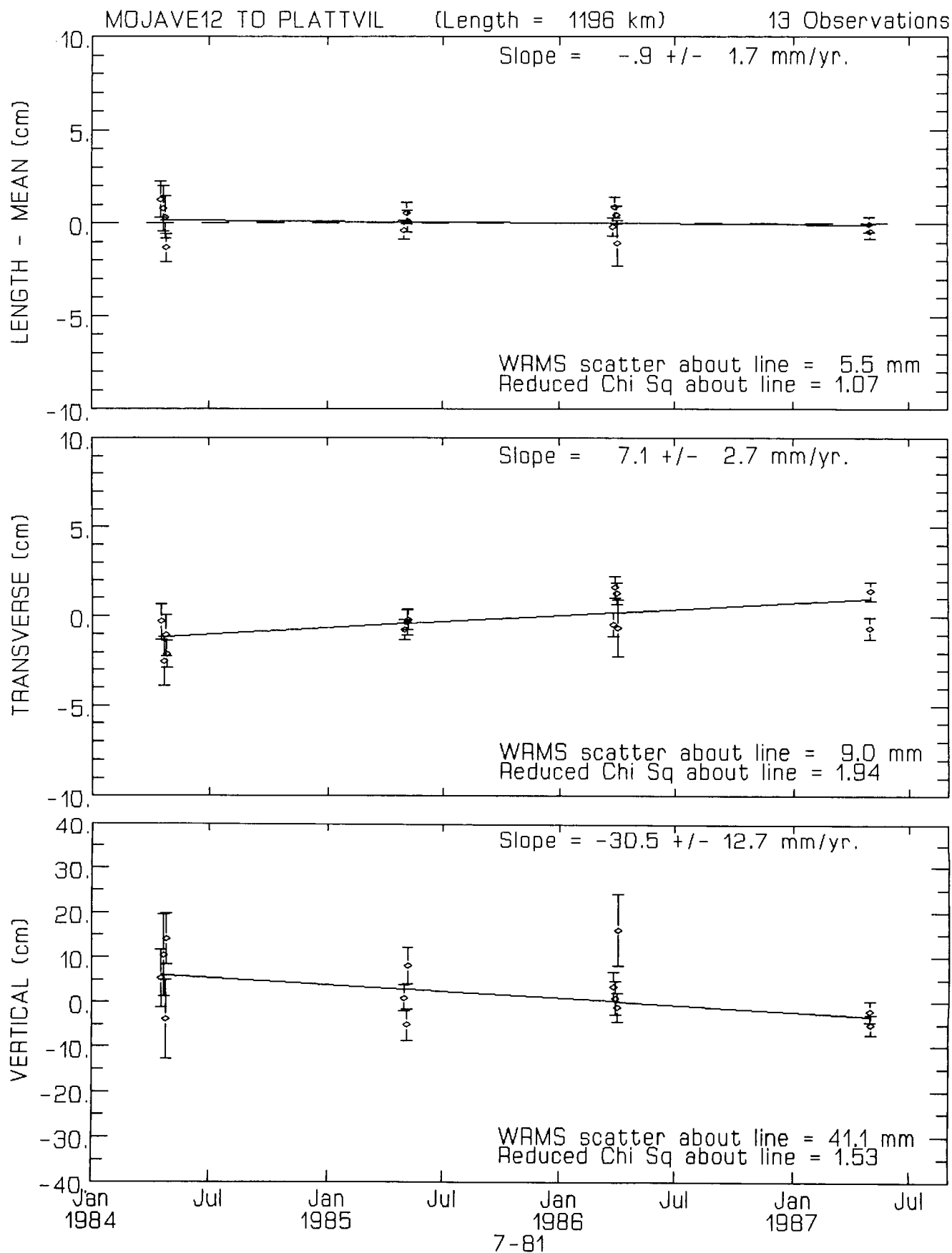


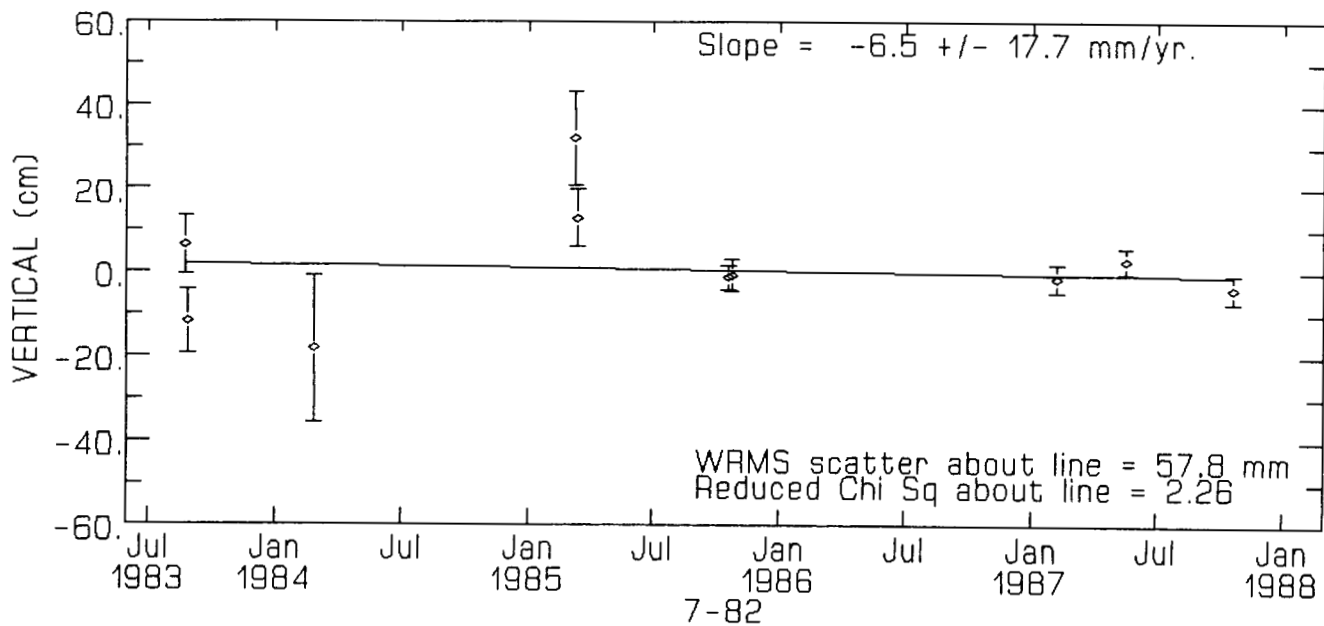
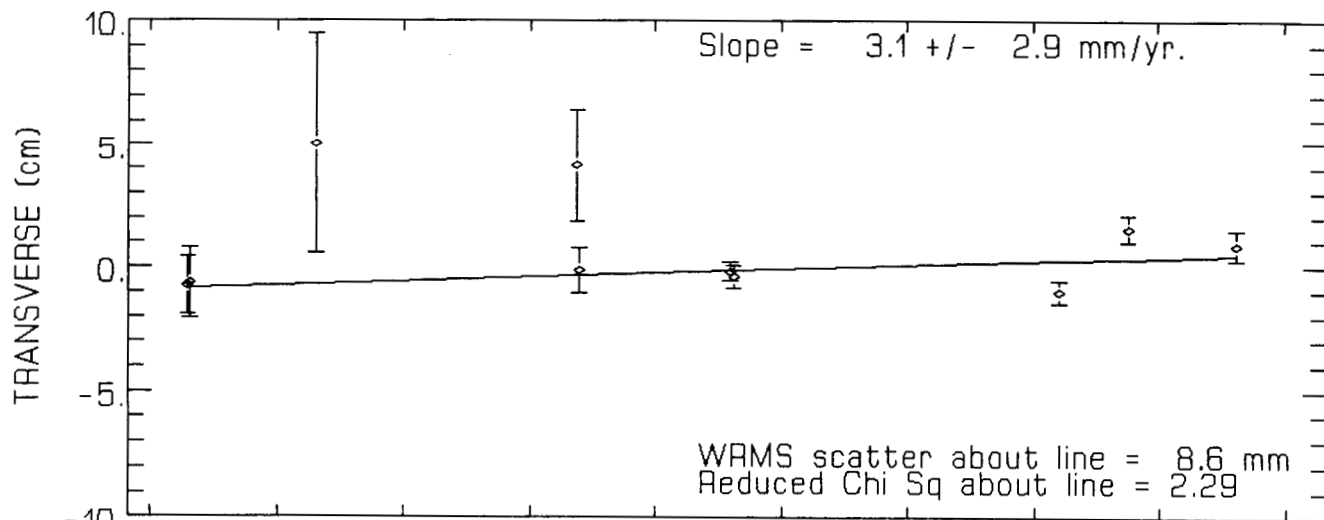
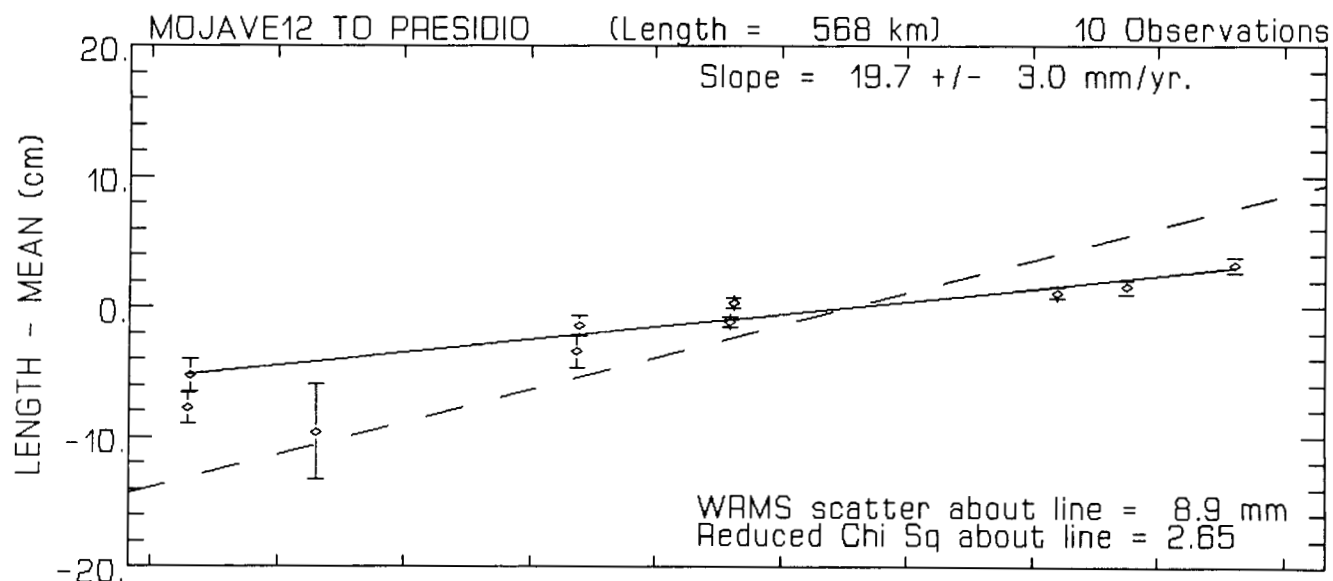


MOJAVE12 TO PINFLATS (Length = 195 km)

17 Observations



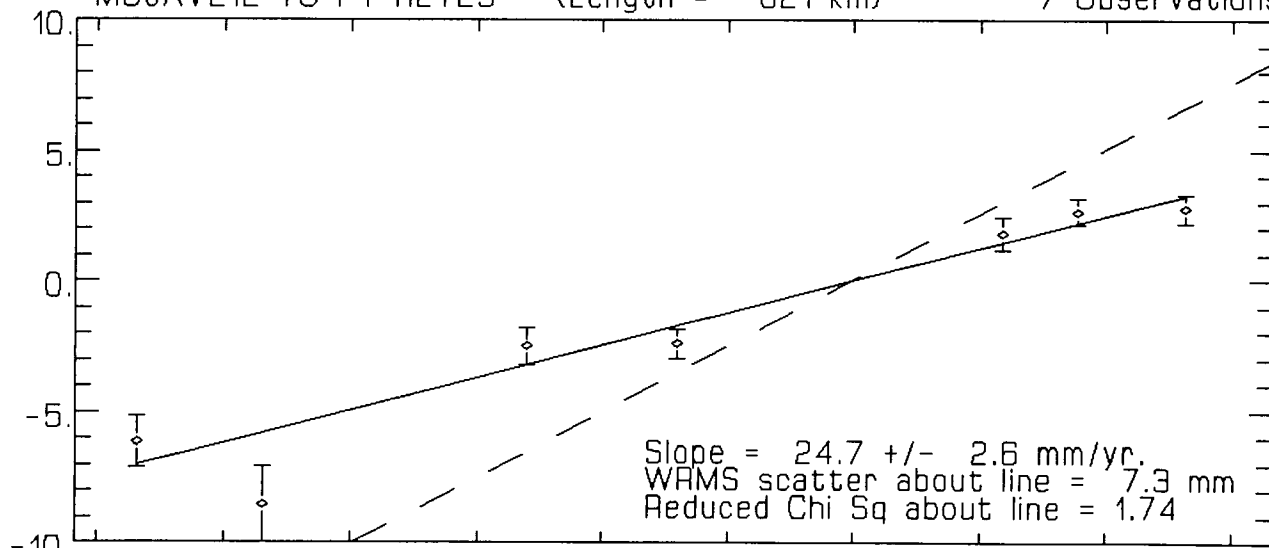




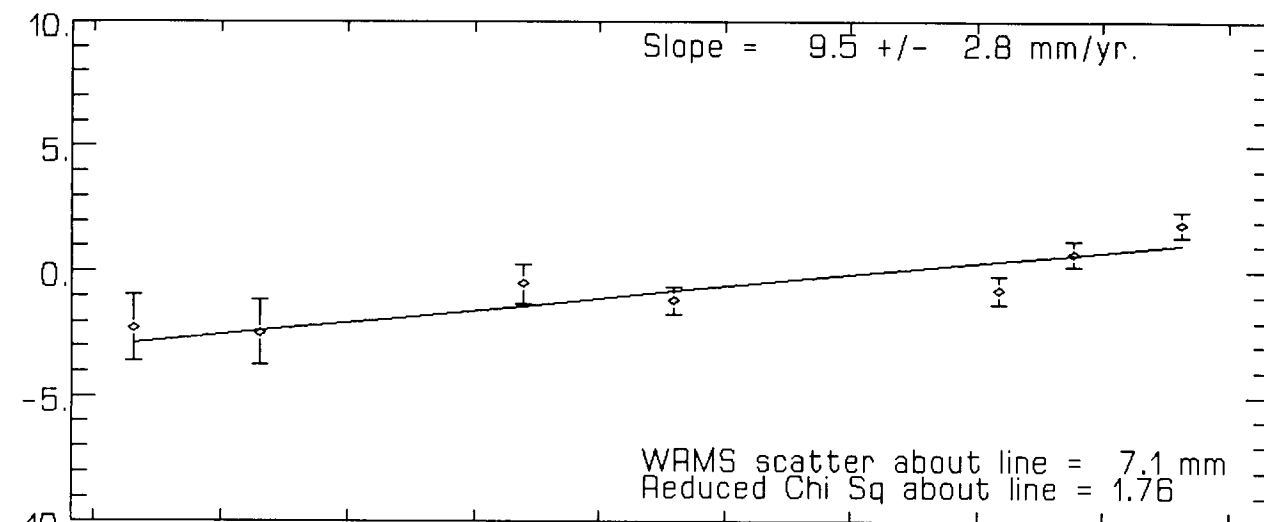
MOJAVE12 TO PT REYES (Length = 621 km)

7 Observations

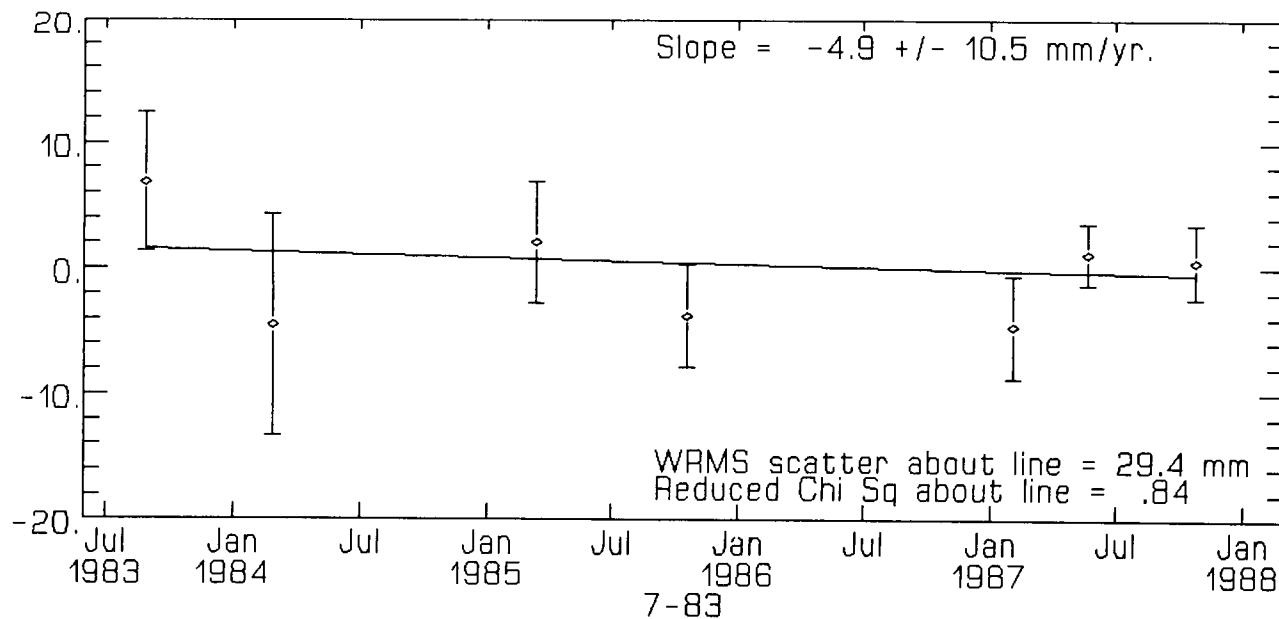
LENGTH - MEAN (cm)



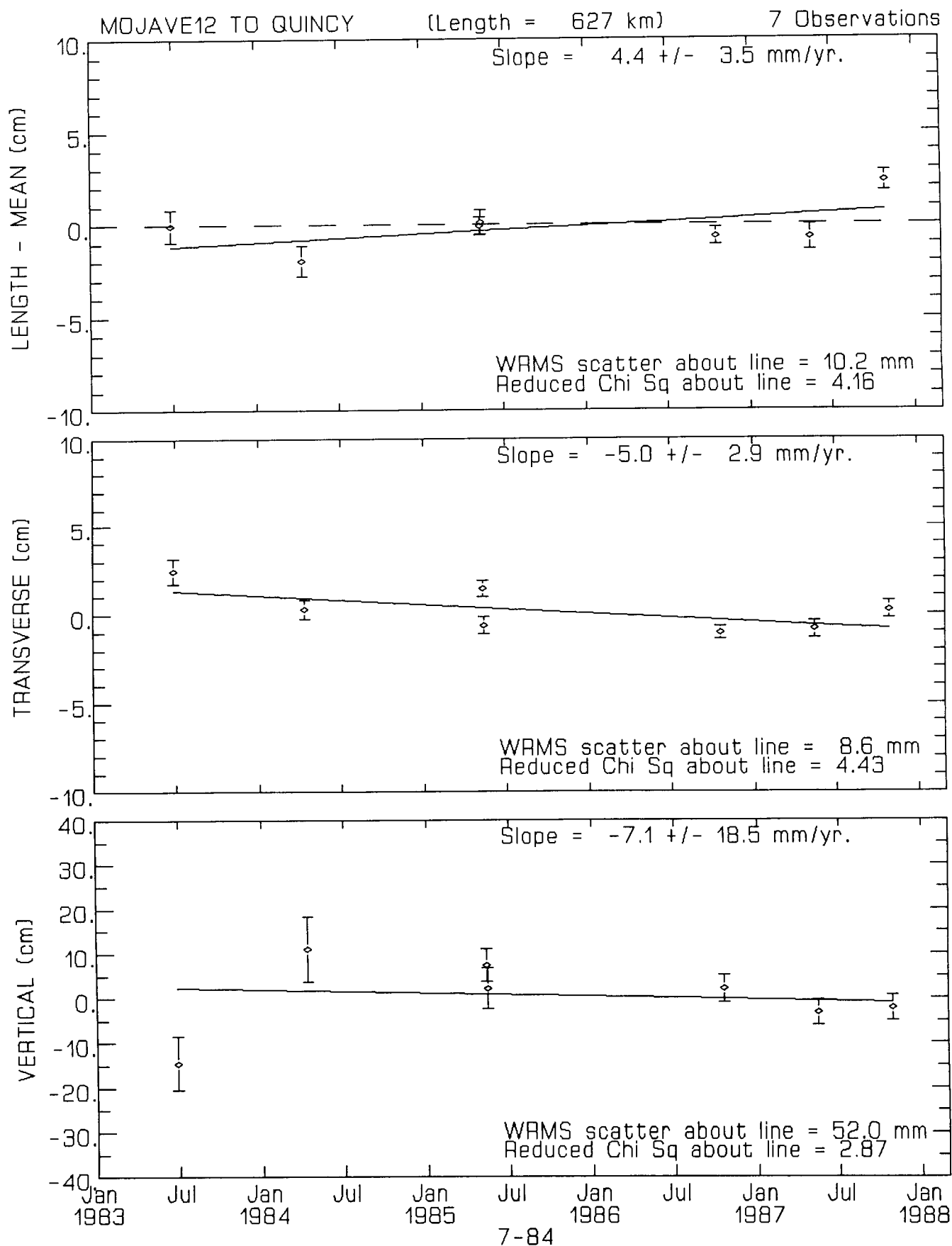
TRANSVERSE (cm)

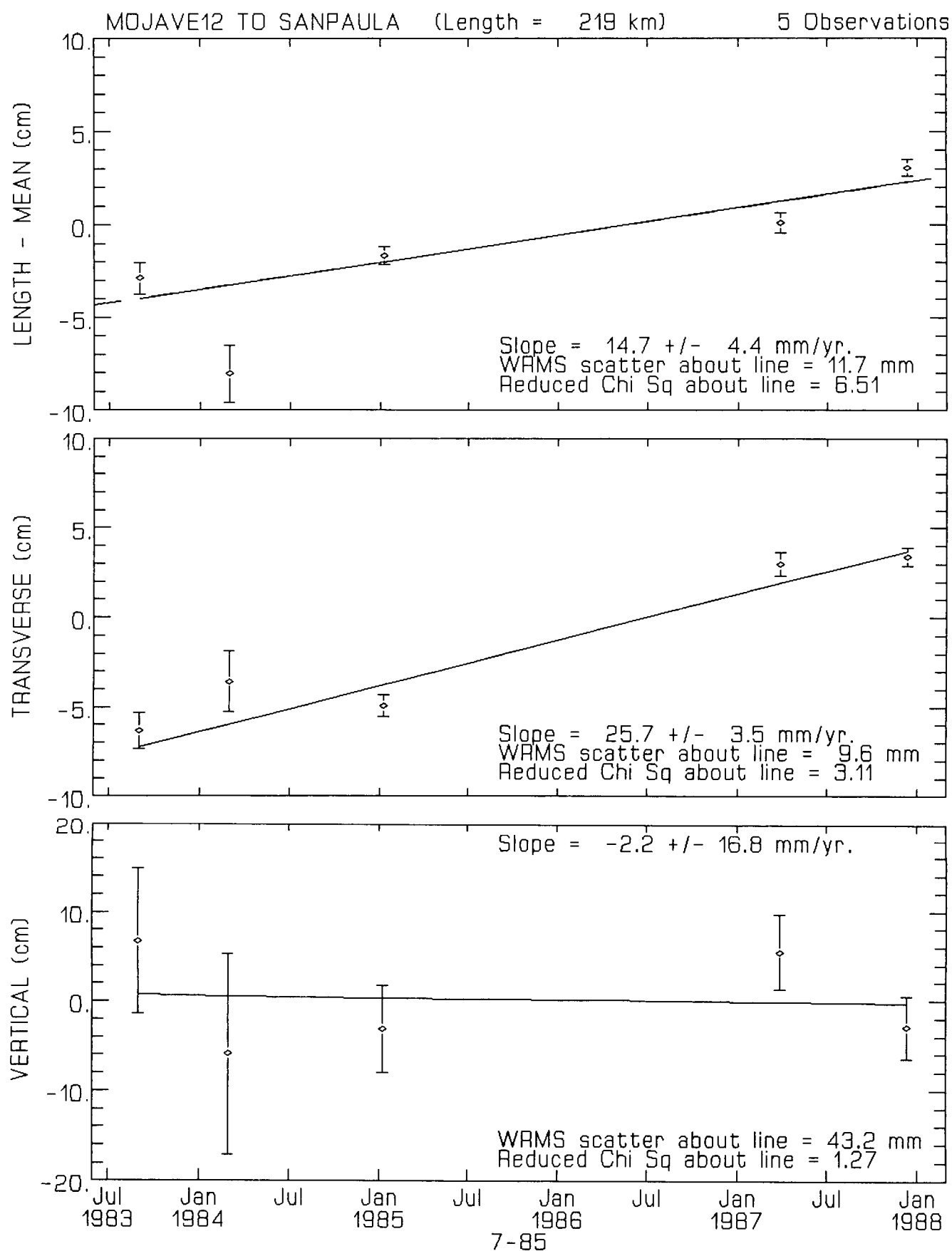


VERTICAL (cm)



7-83

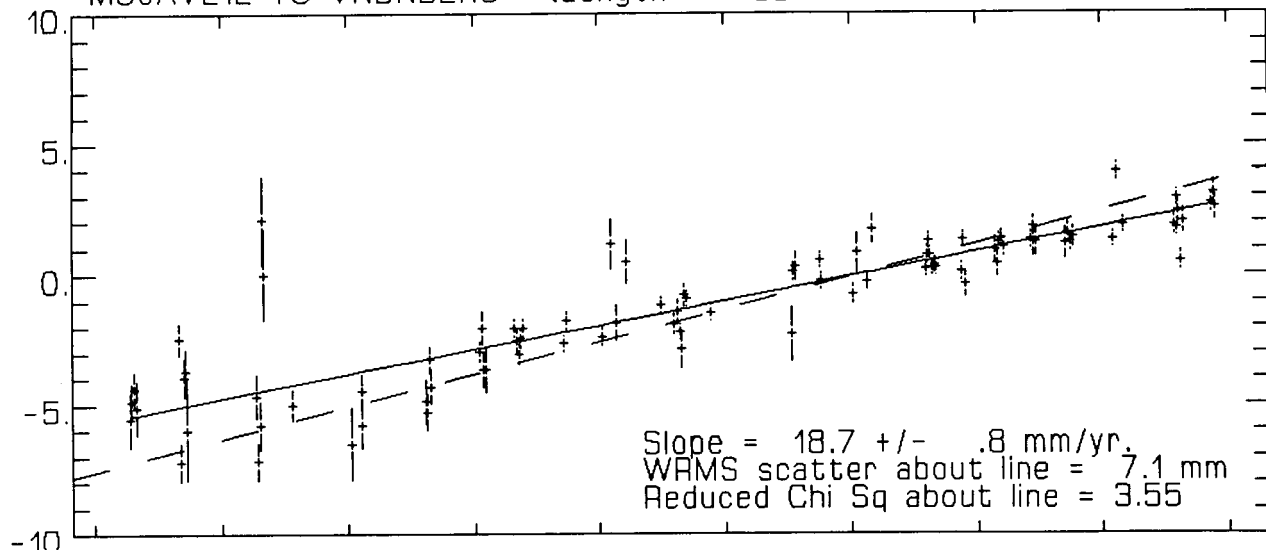




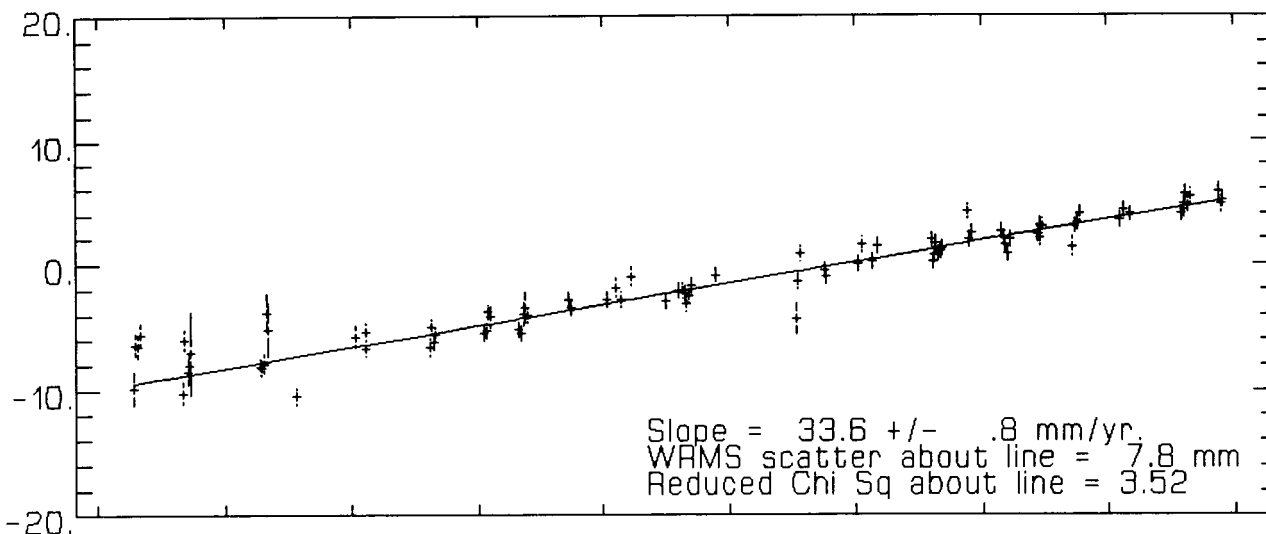
MOJAVE12 TO VNDNBERG (Length = 351 km)

89 Observations

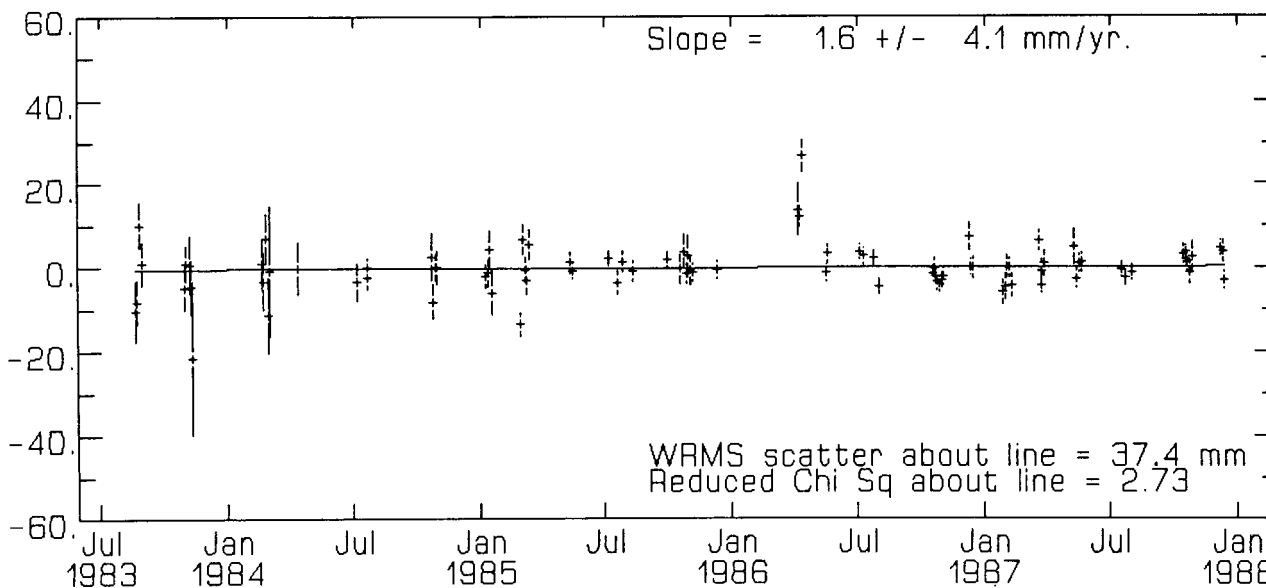
LENGTH - MEAN (cm)



TRANSVERSE (cm)



VERTICAL (cm)



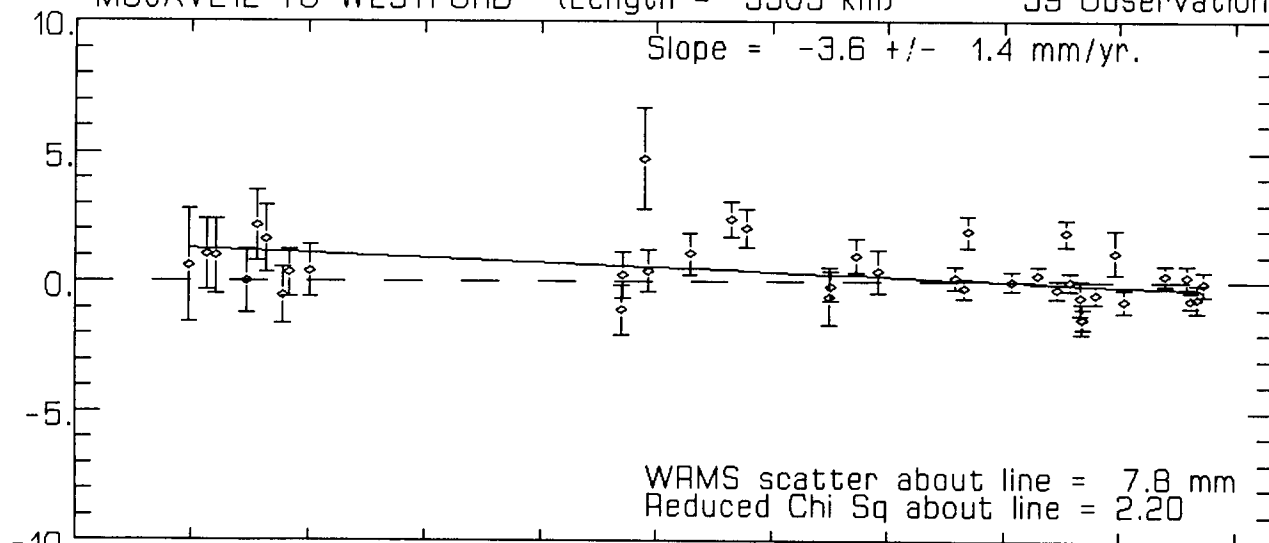
7-86

MOJAVE12 TO WESTFORD (Length = 3903 km)

39 Observations

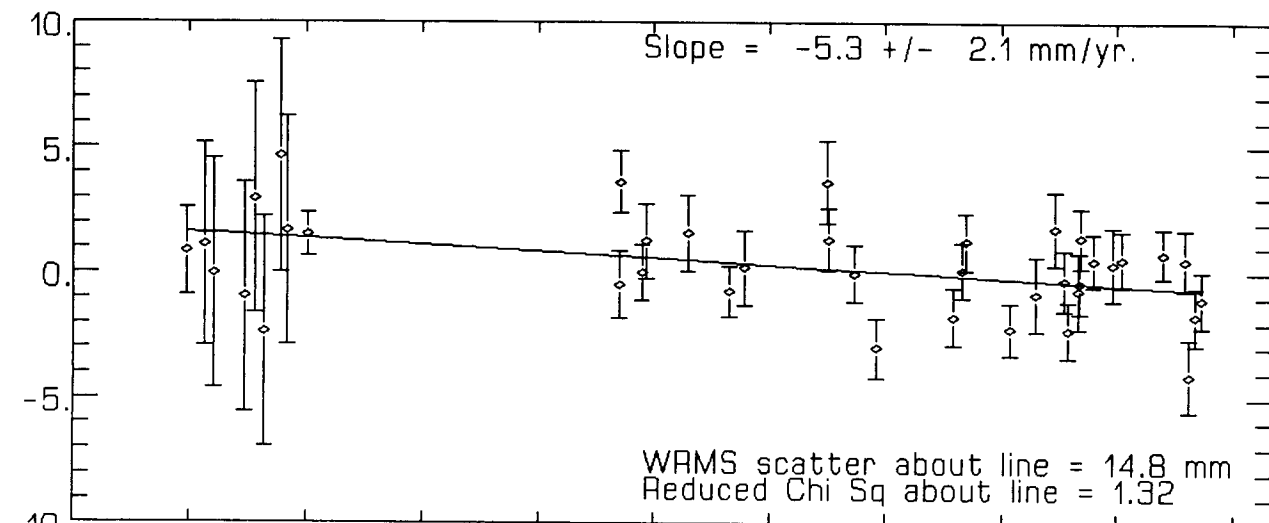
Slope = -3.6 ± 1.4 mm/yr.

LENGTH - MEAN (cm)



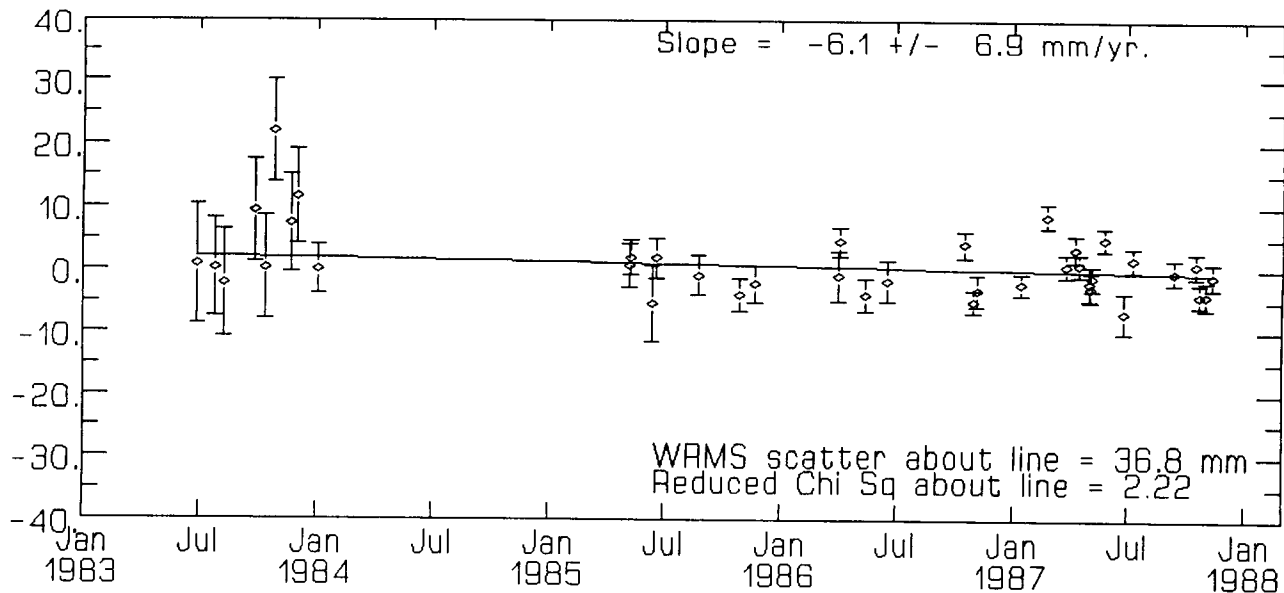
Slope = -5.3 ± 2.1 mm/yr.

TRANSVERSE (cm)

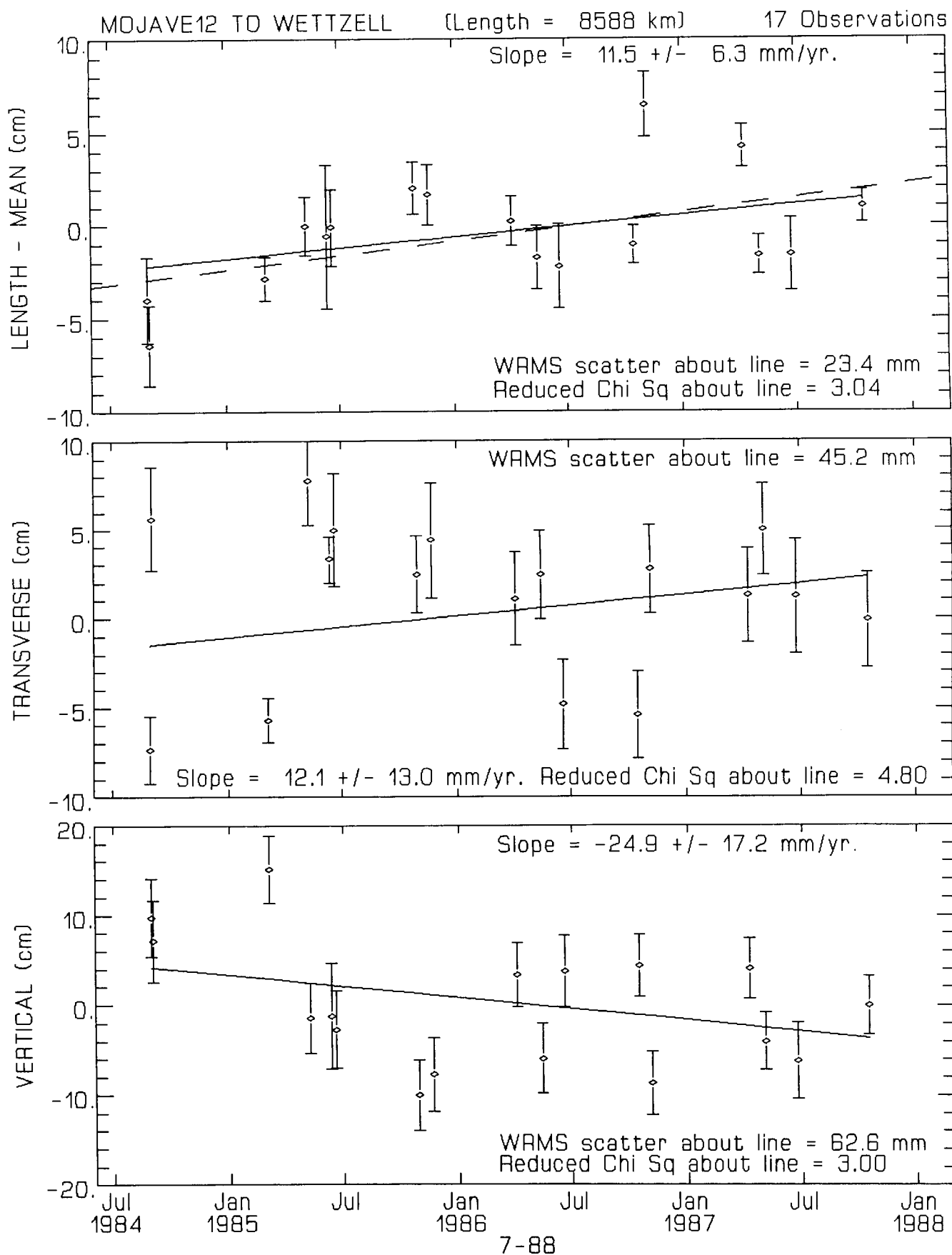


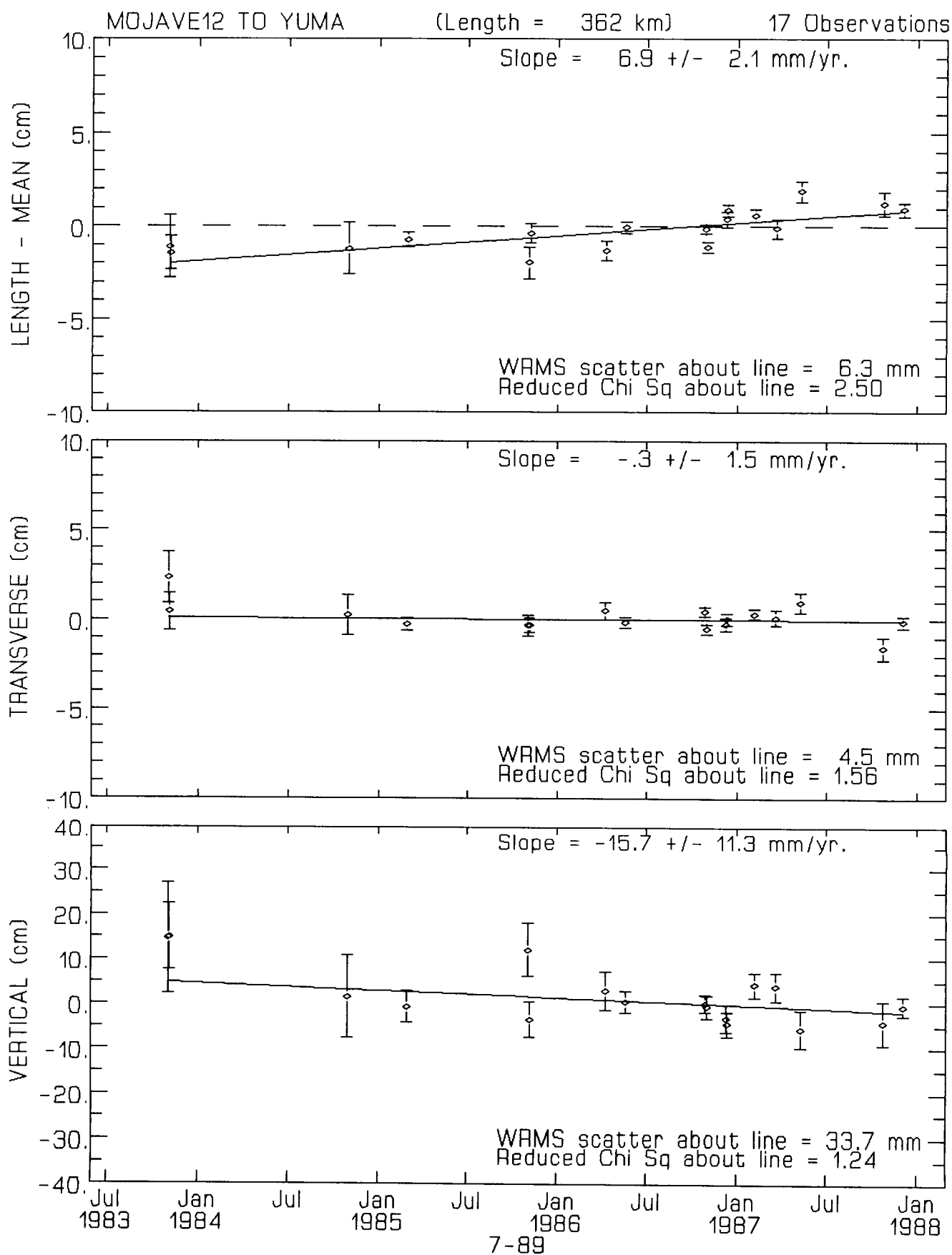
Slope = -6.1 ± 6.9 mm/yr.

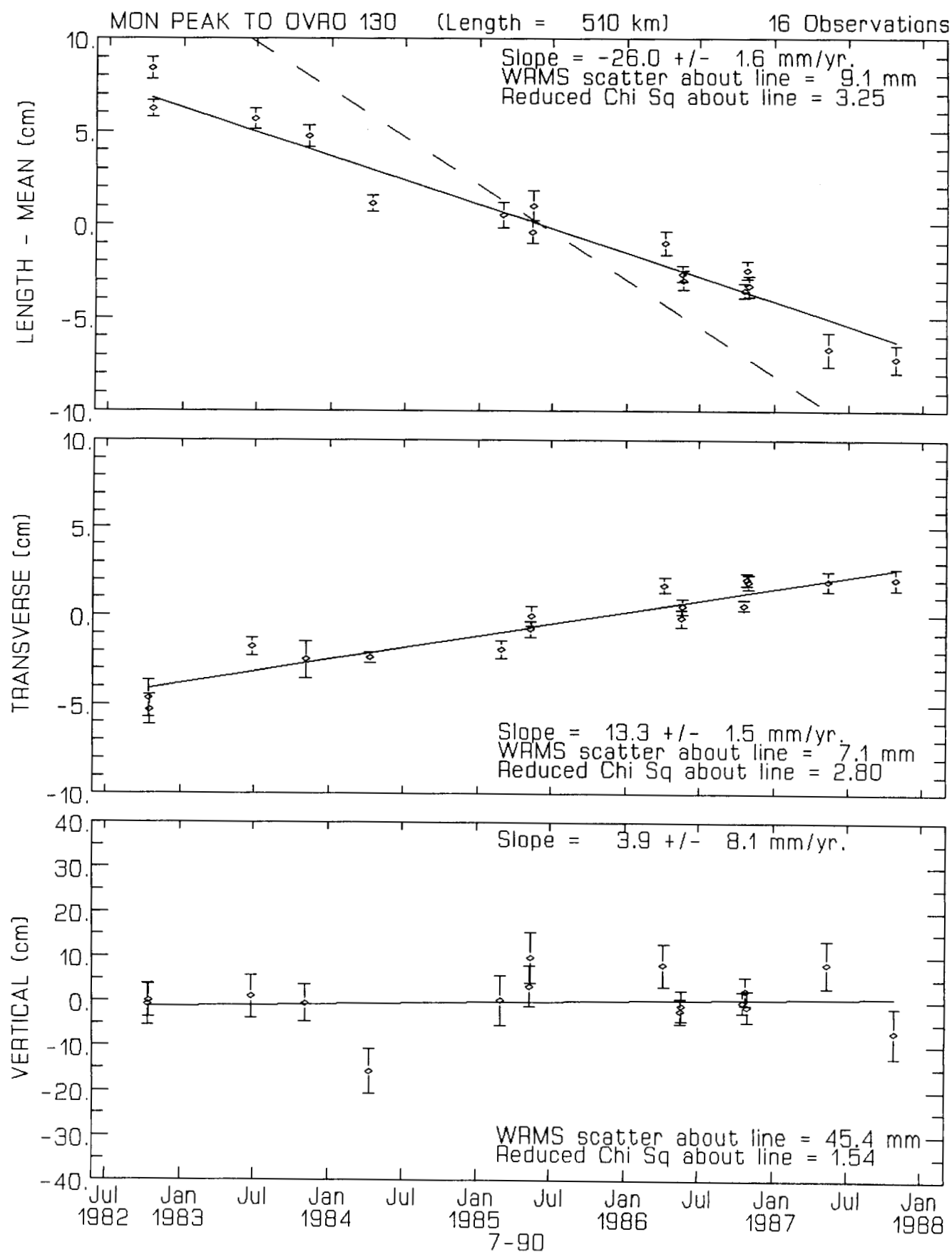
VERTICAL (cm)

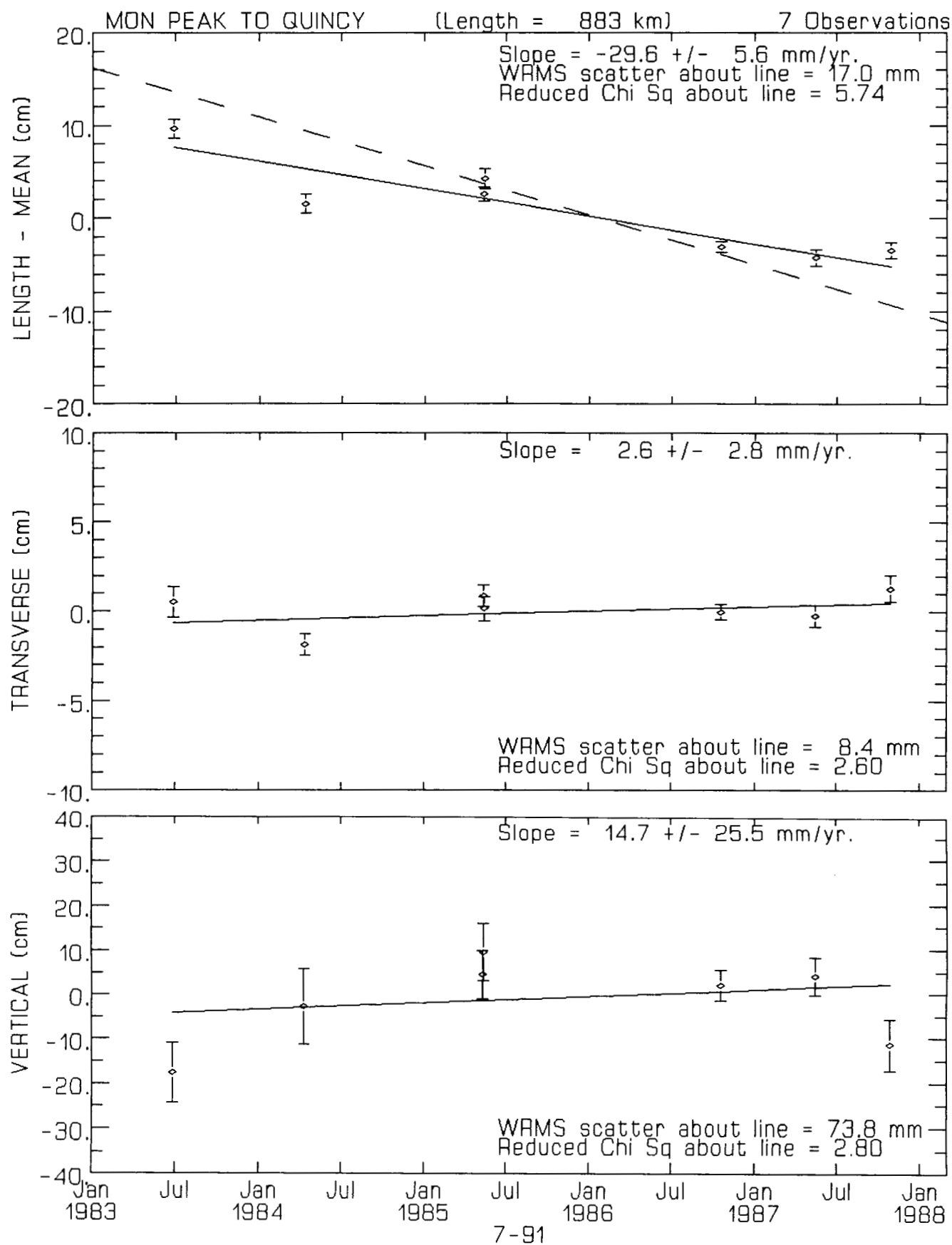


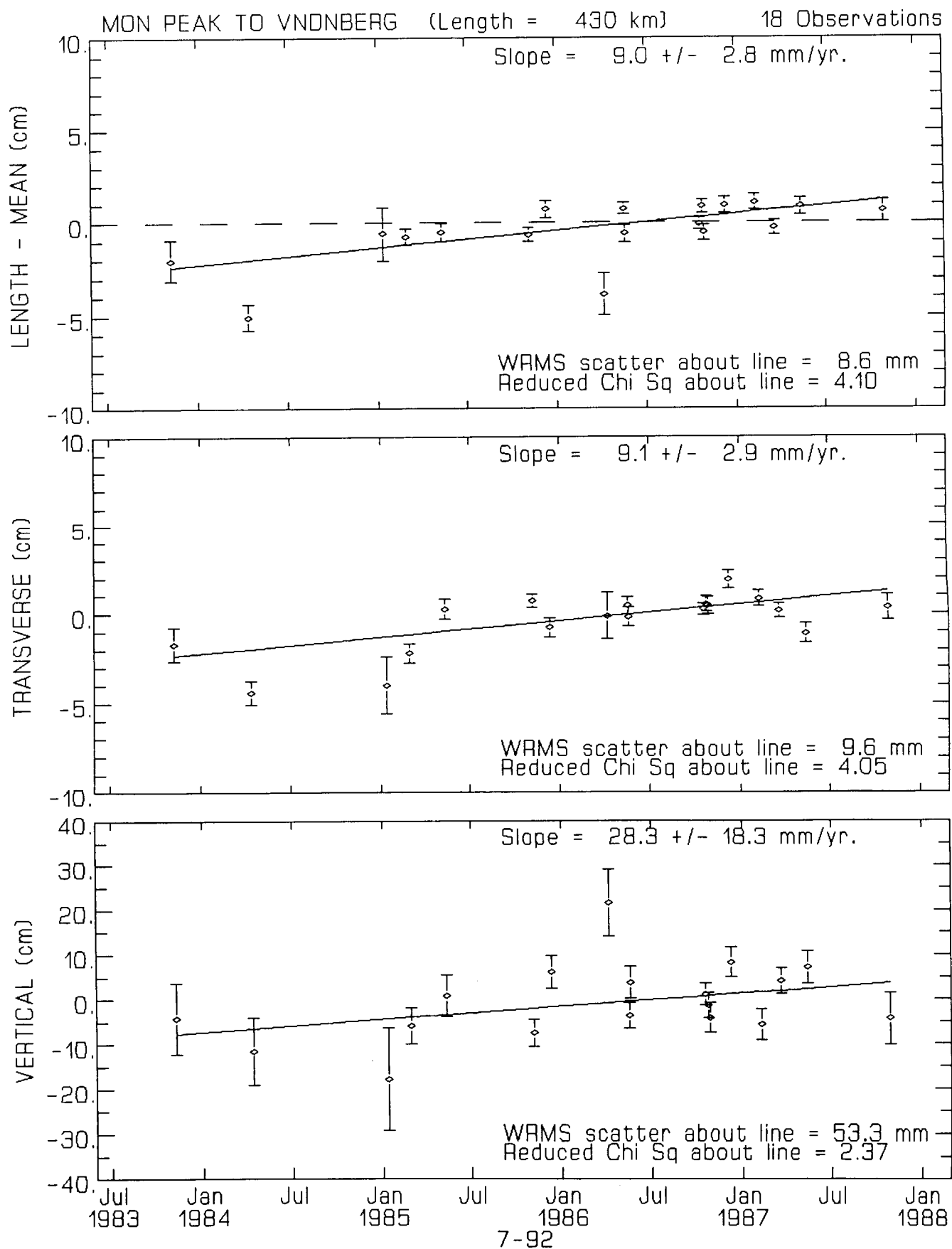
7-87









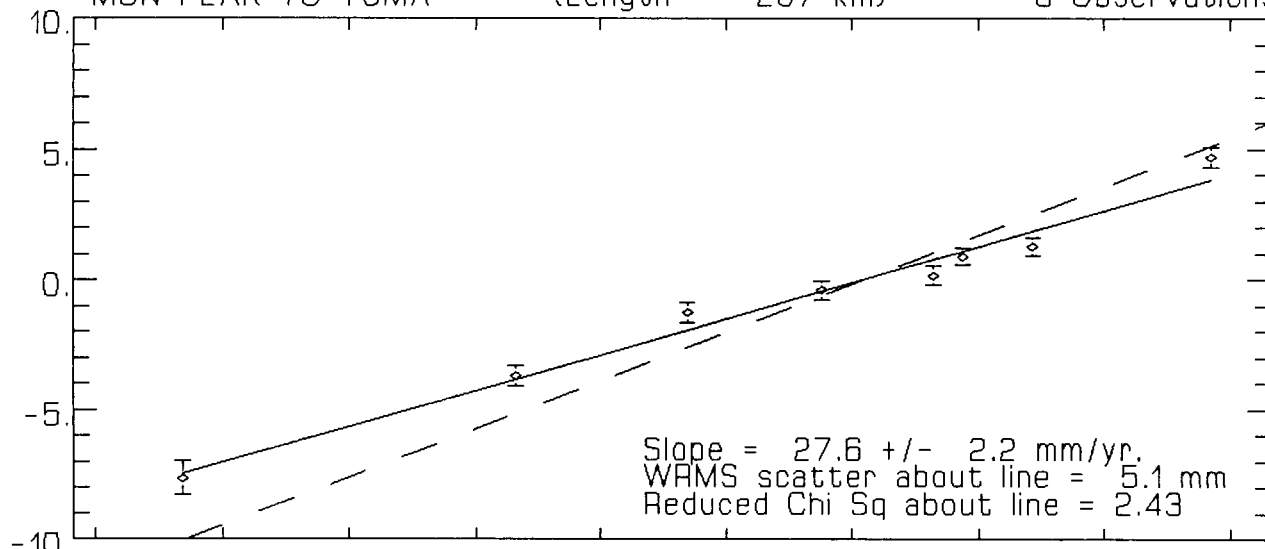


MON PEAK TO YUMA

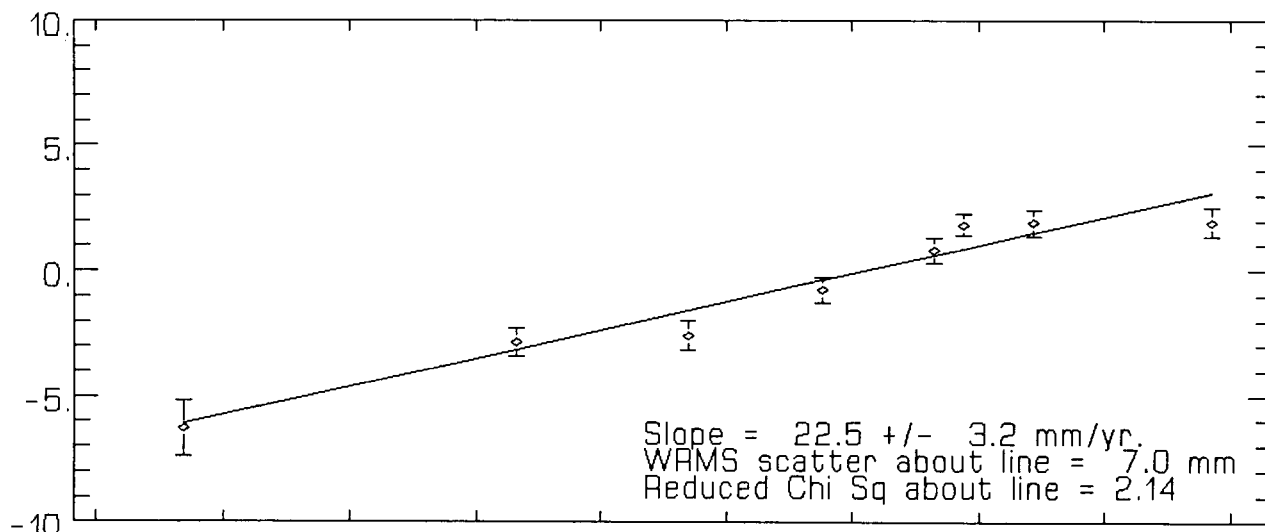
(Length = 207 km)

8 Observations

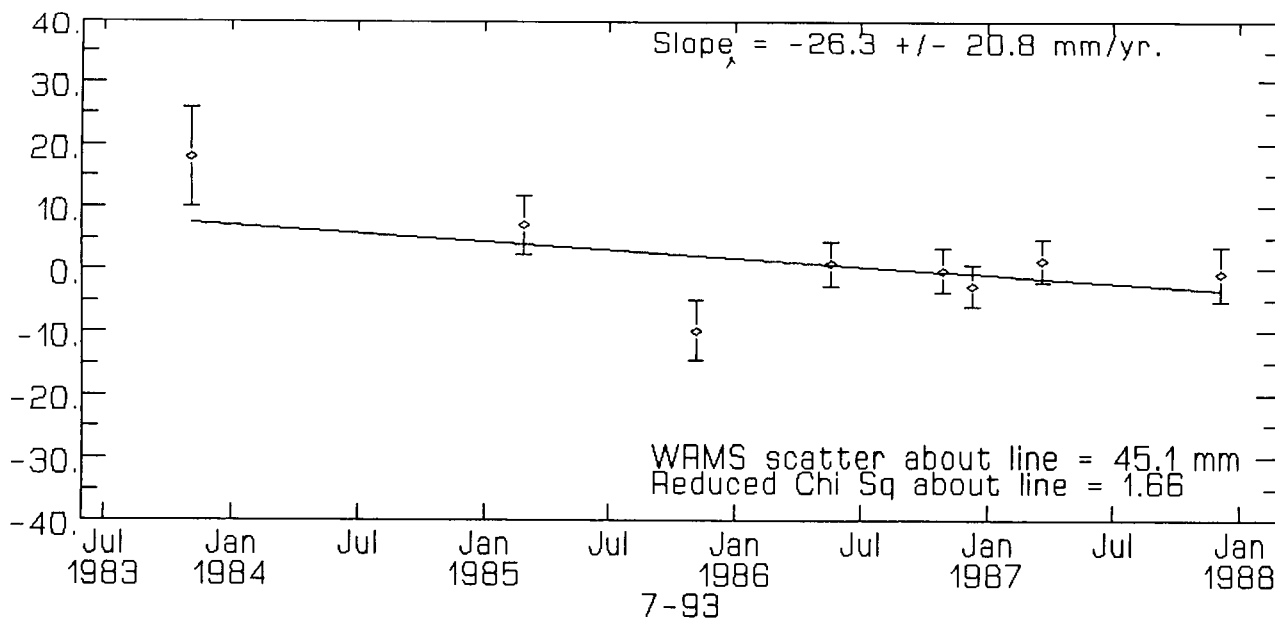
LENGTH - MEAN (cm)

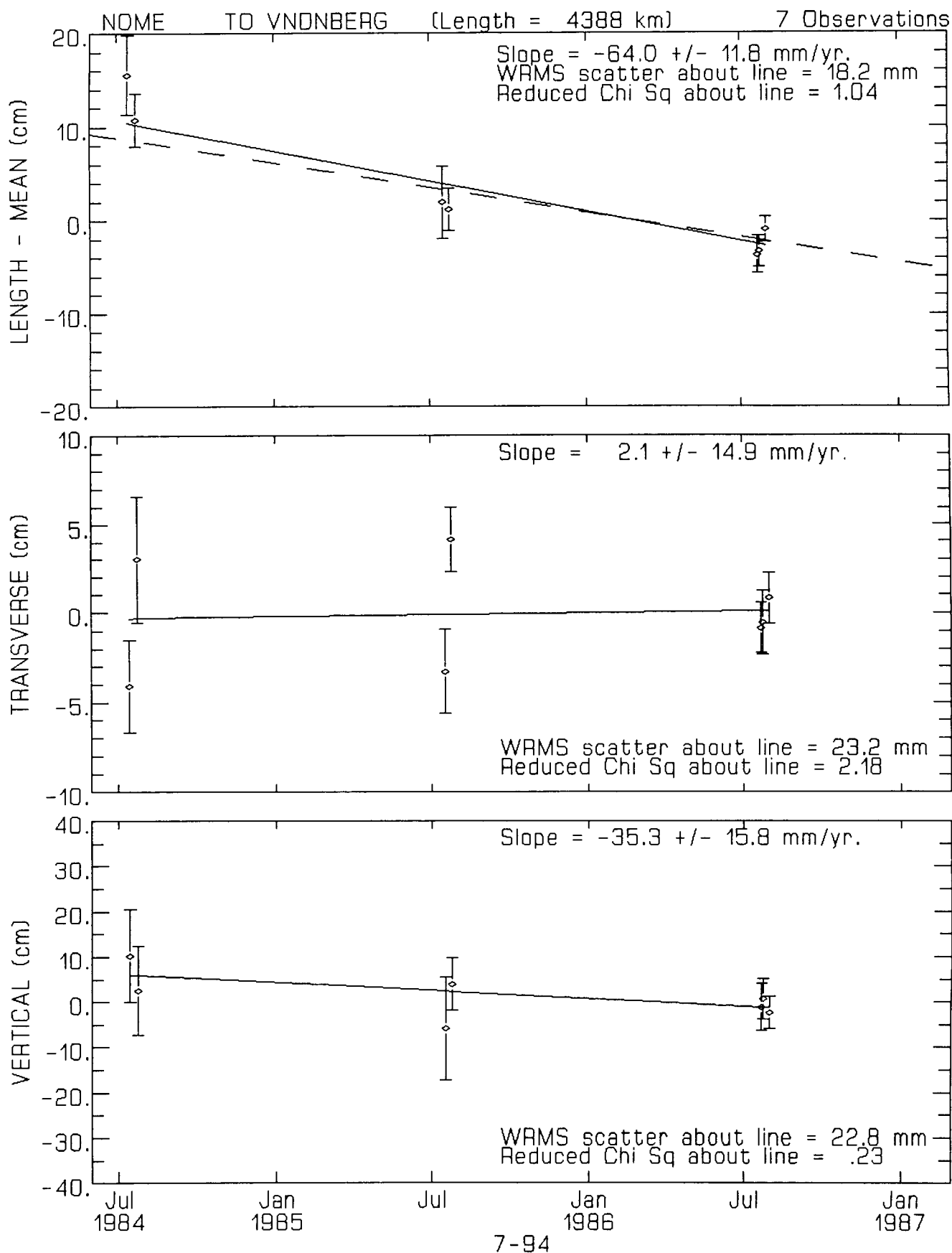


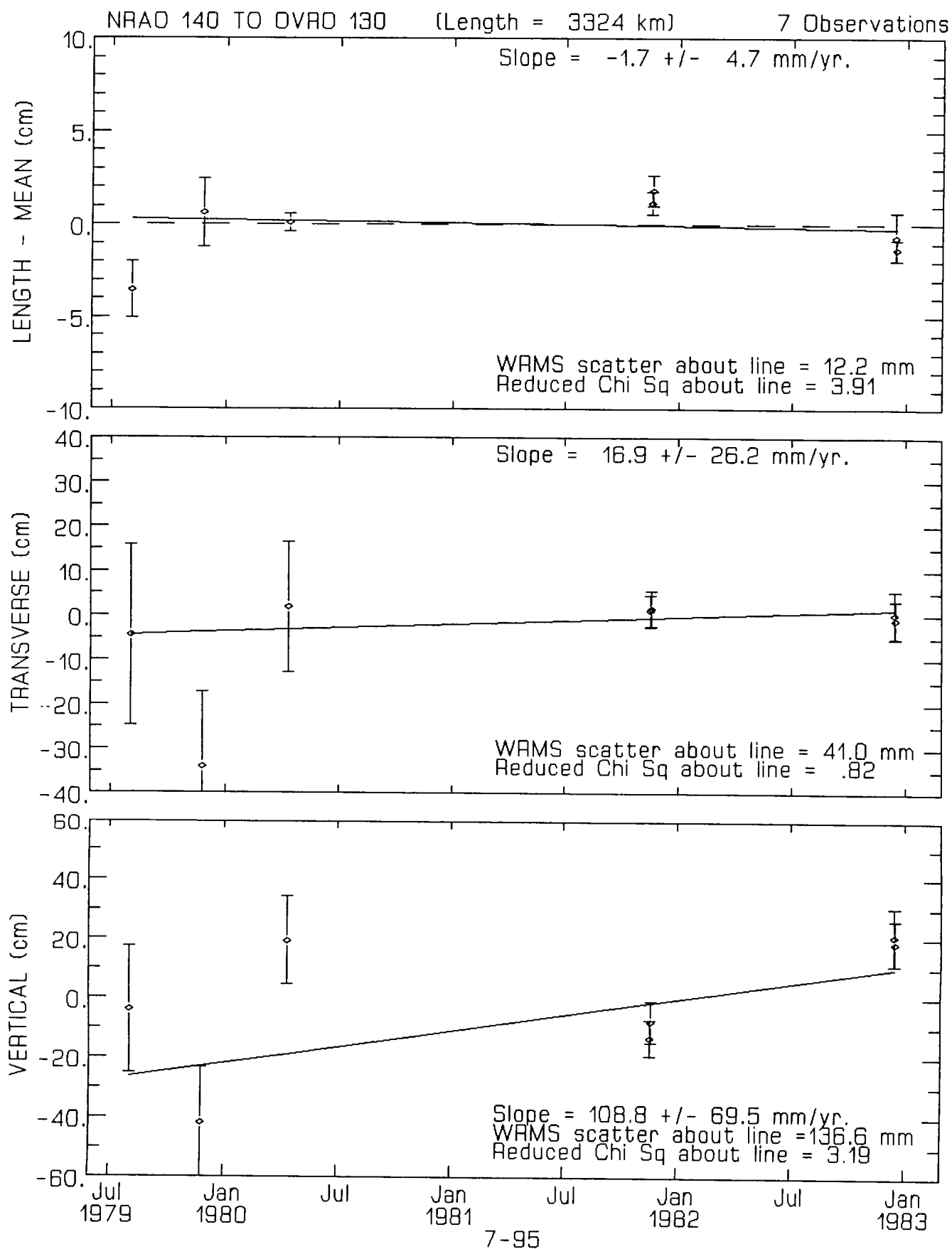
TRANSVERSE (cm)

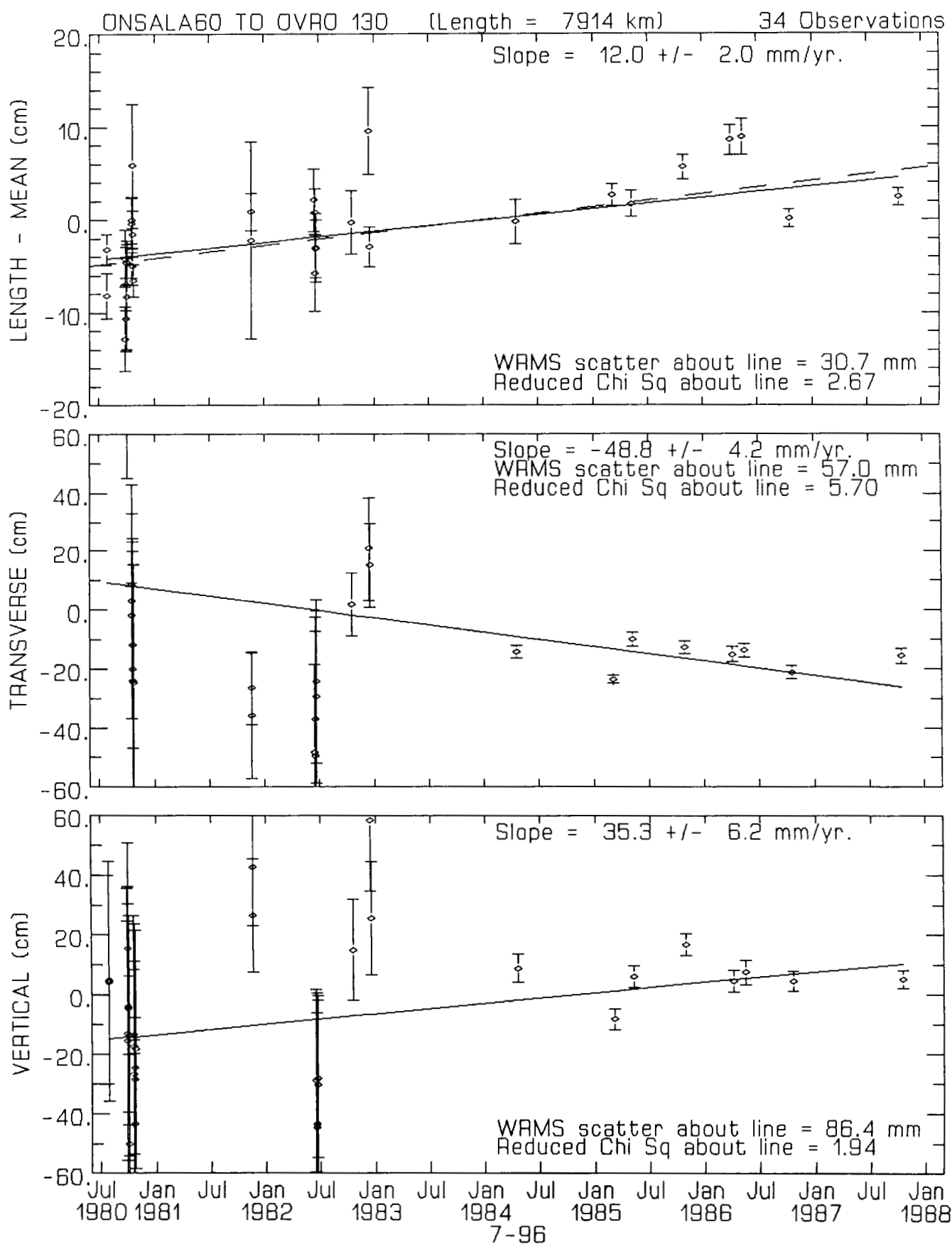


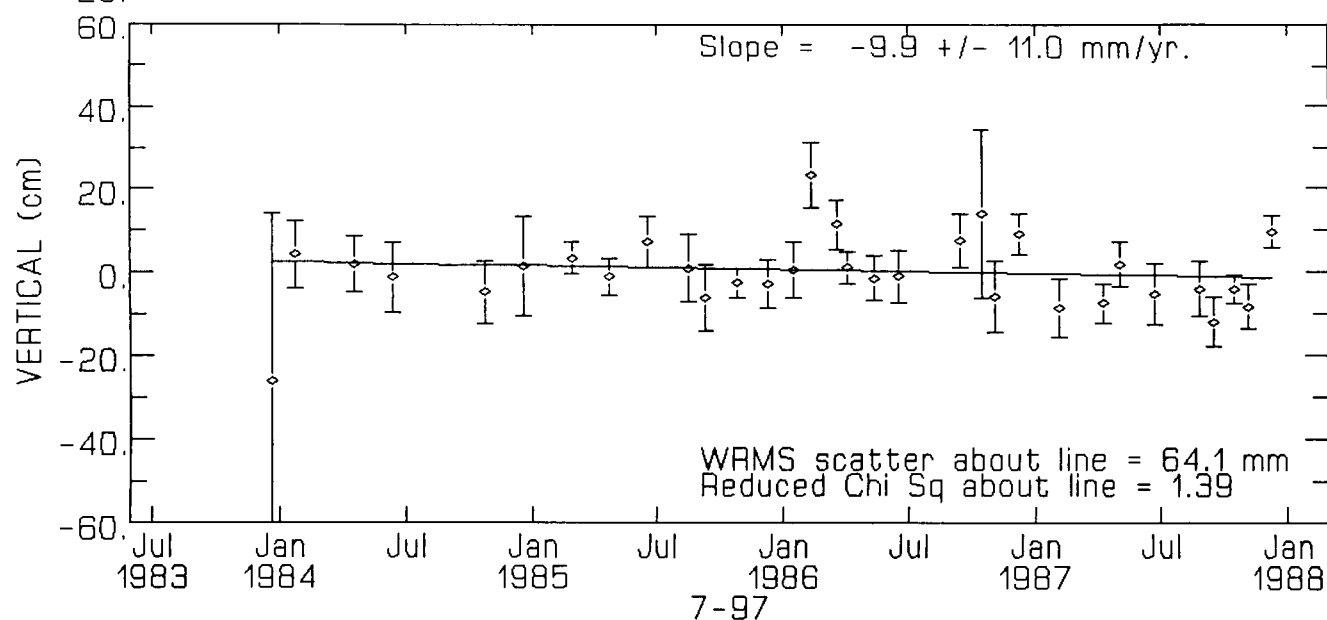
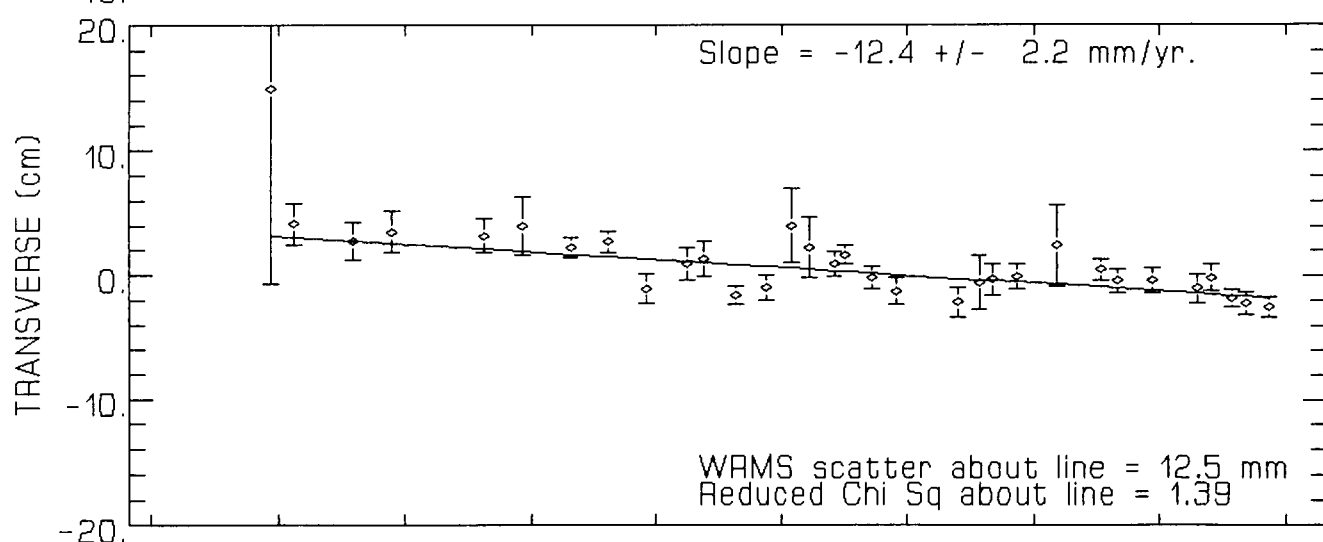
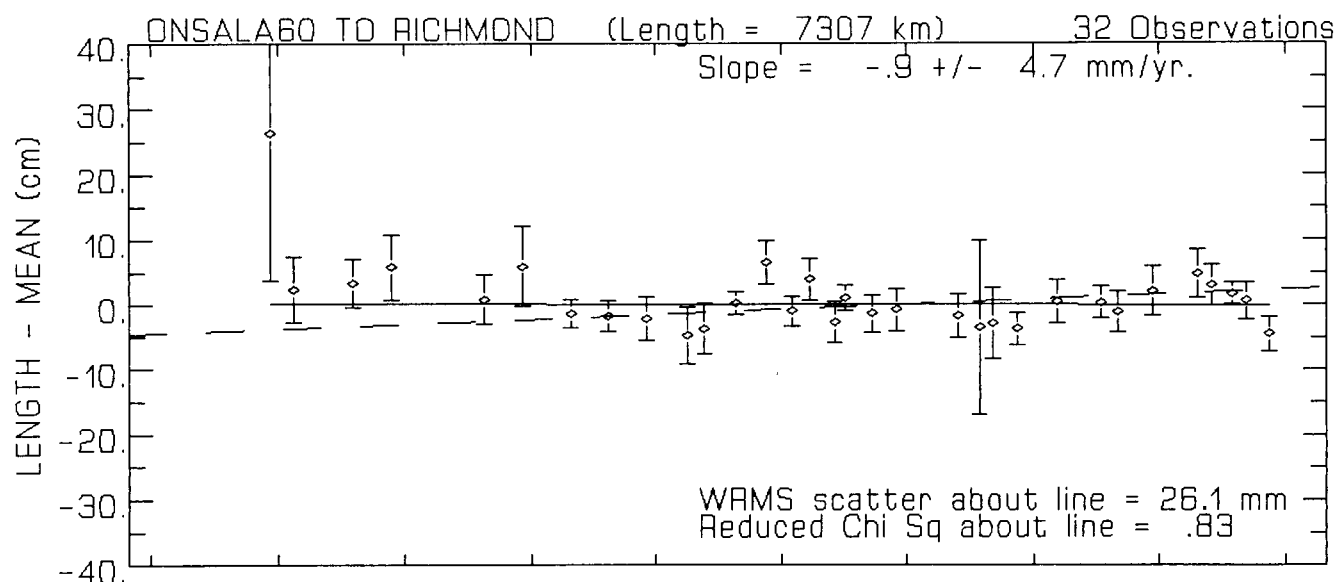
VERTICAL (cm)

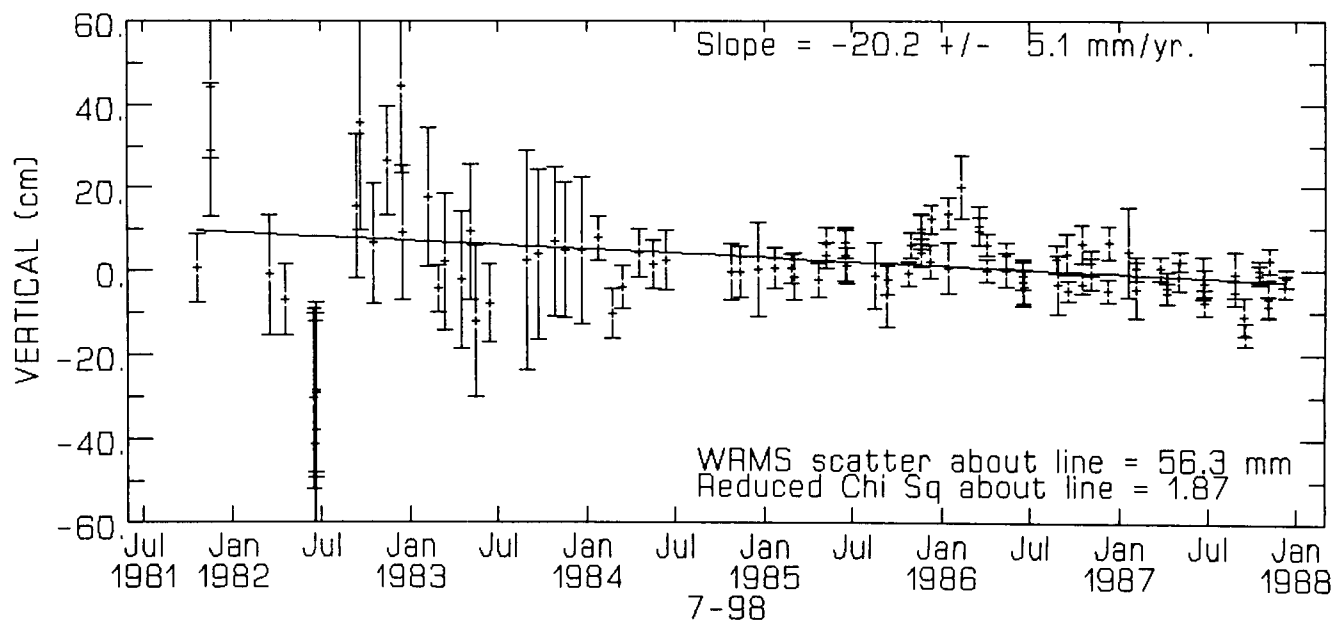
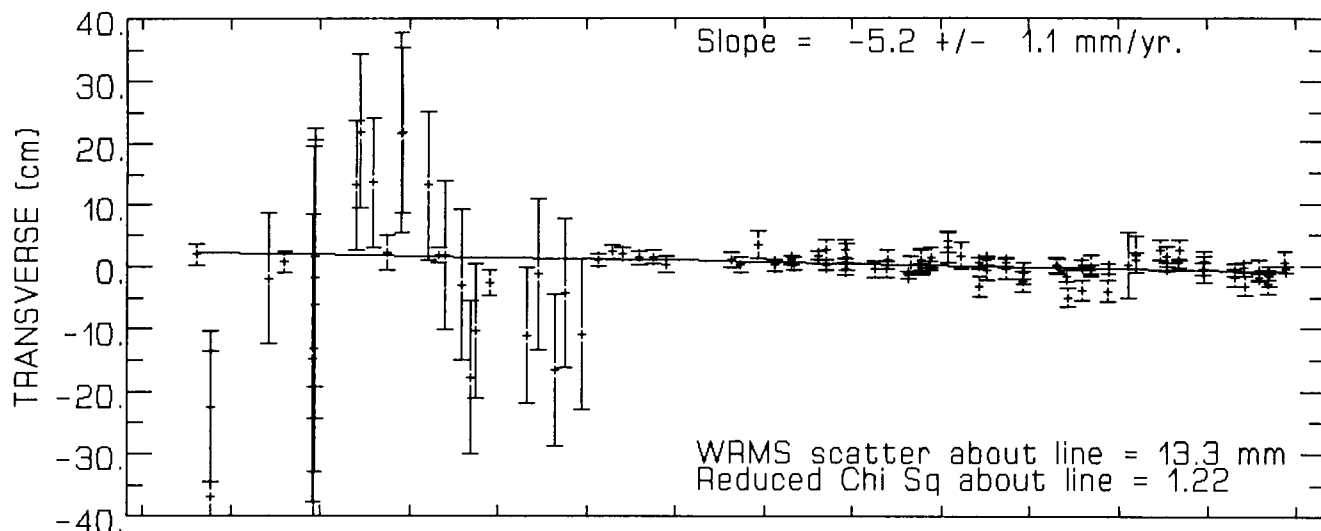
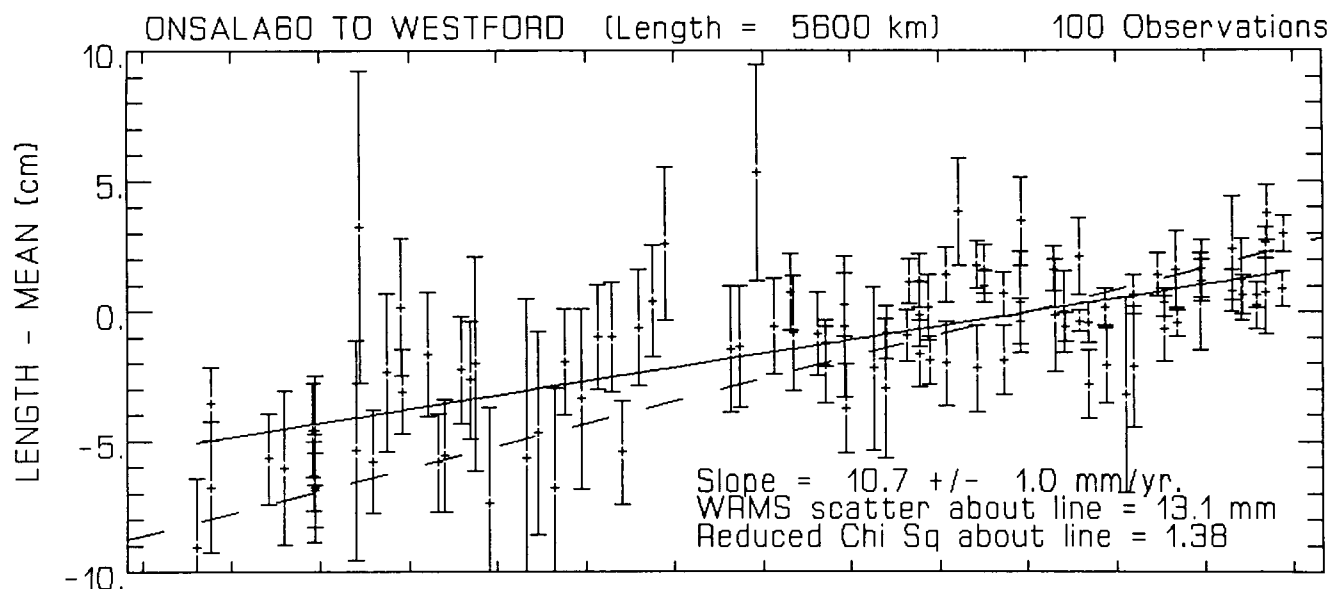


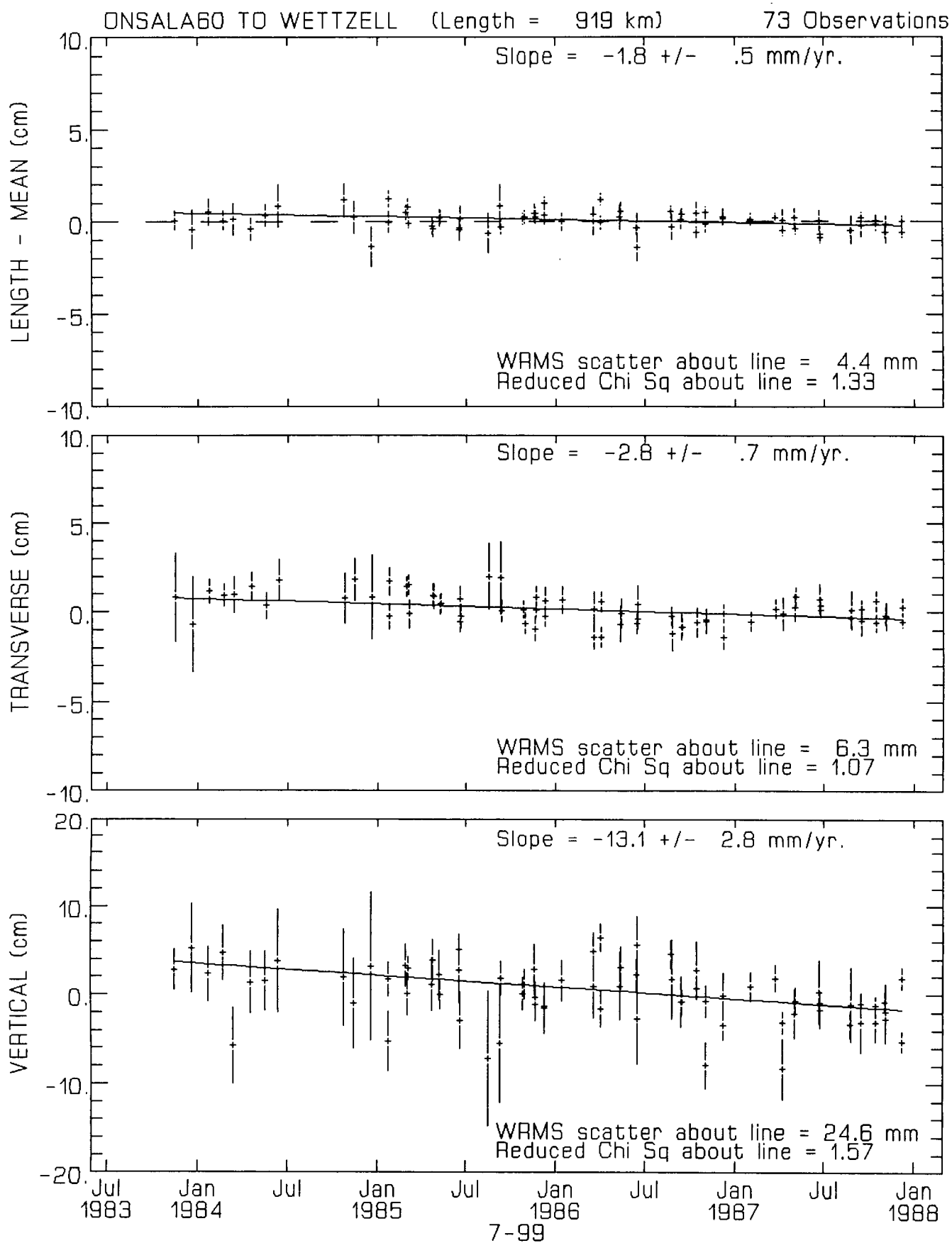


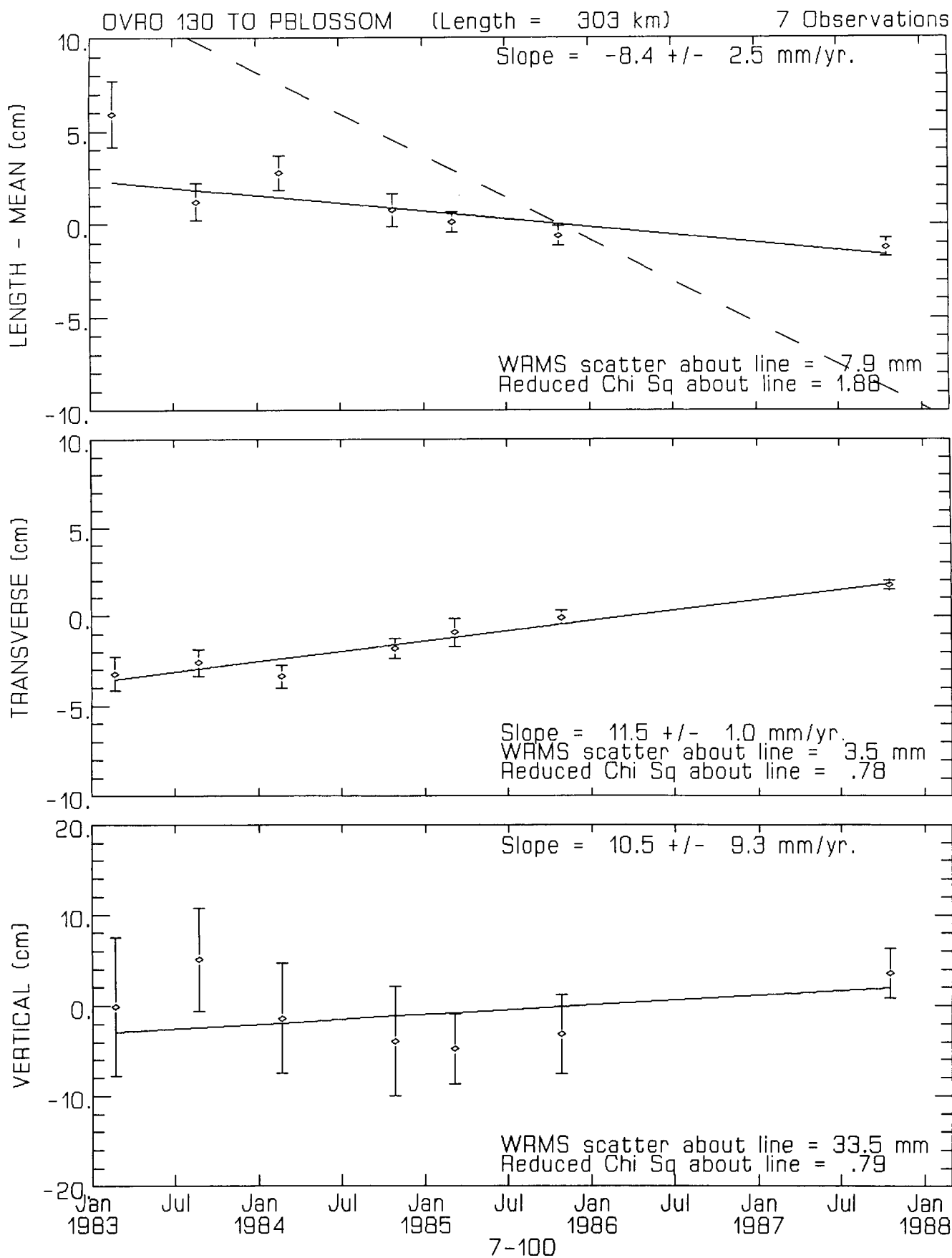








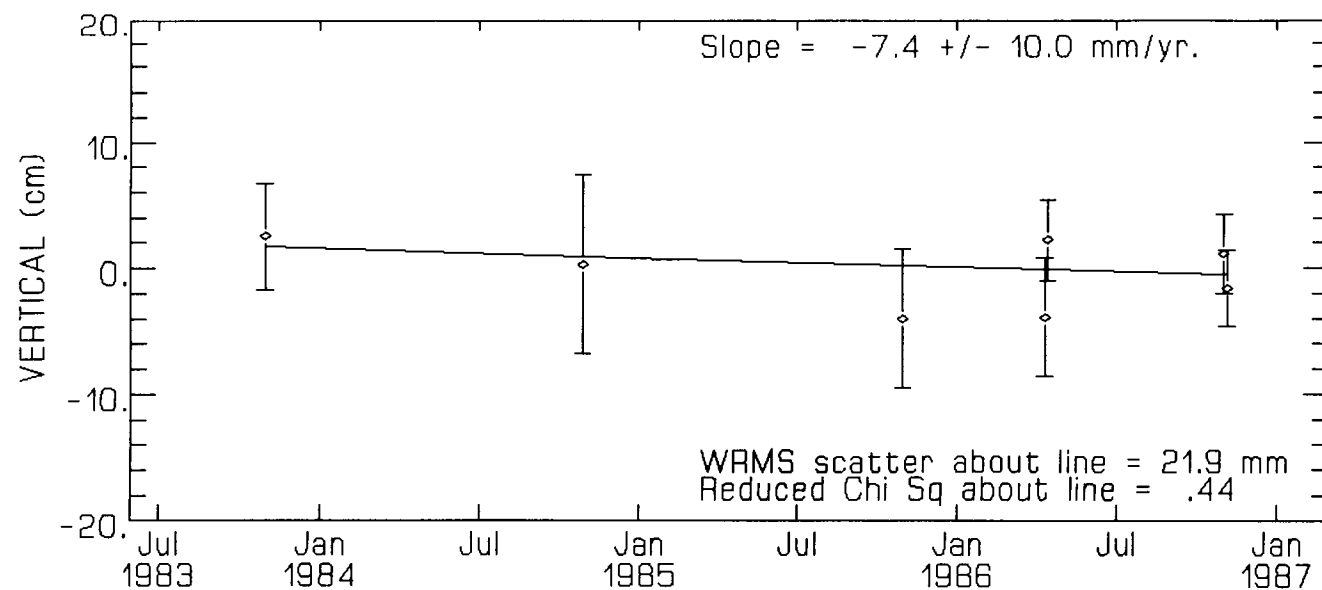
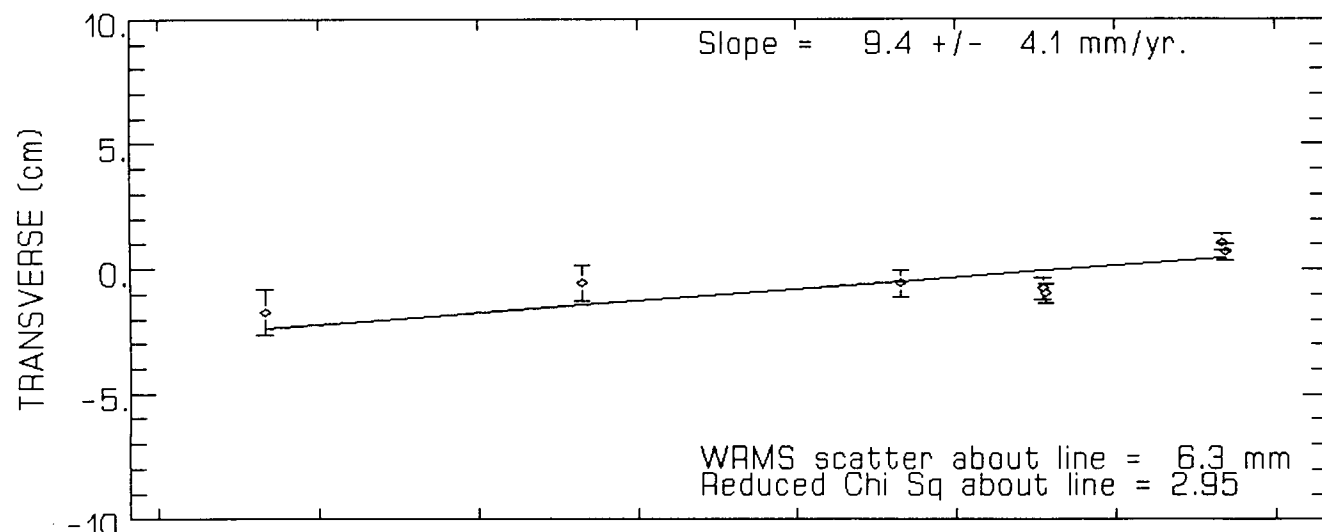
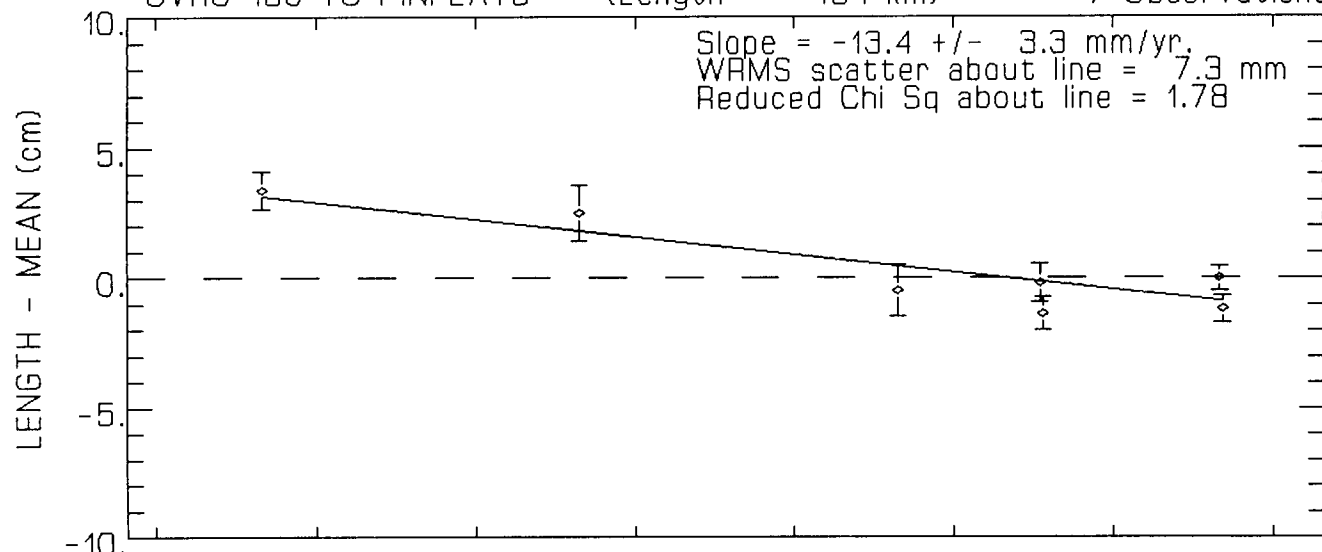


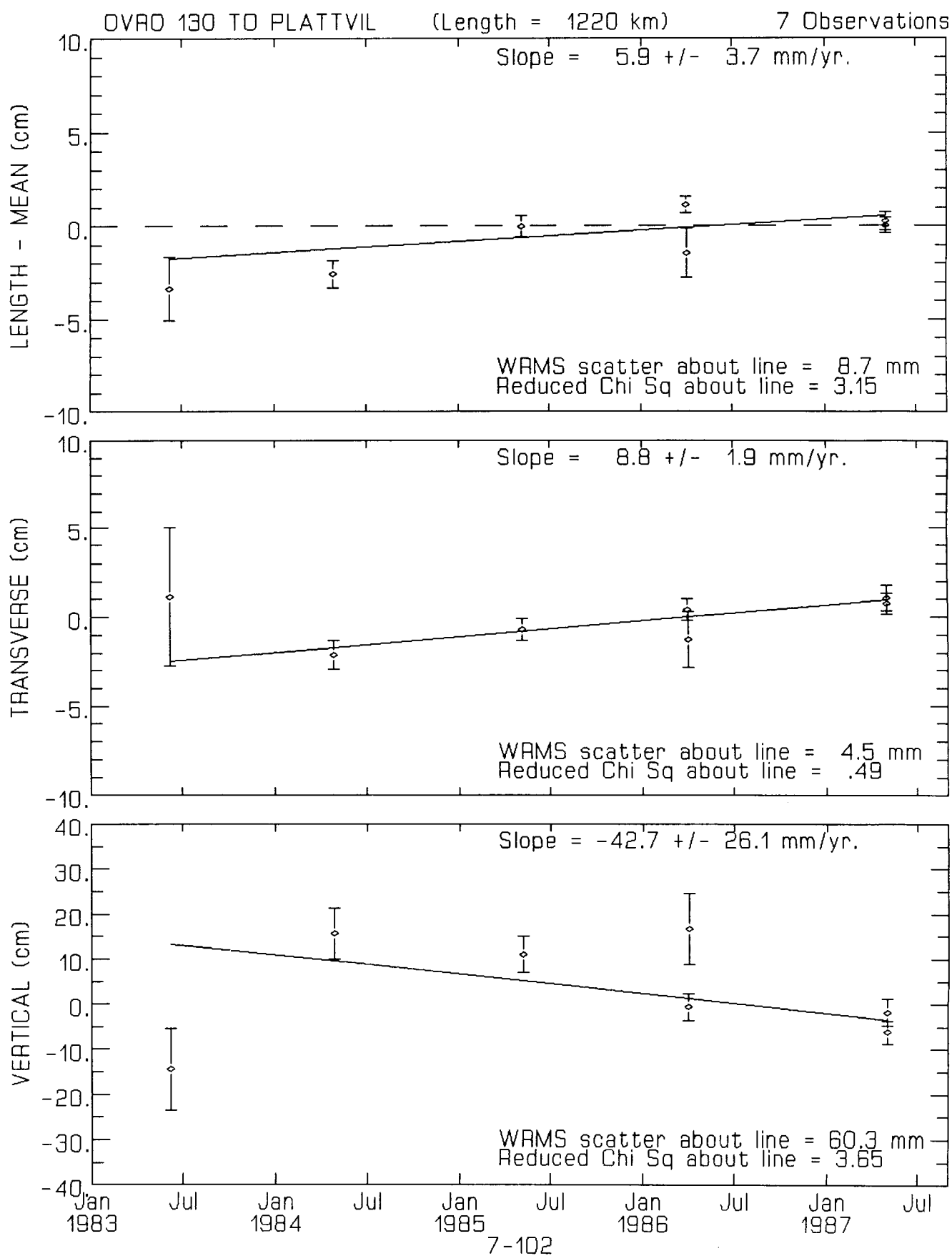


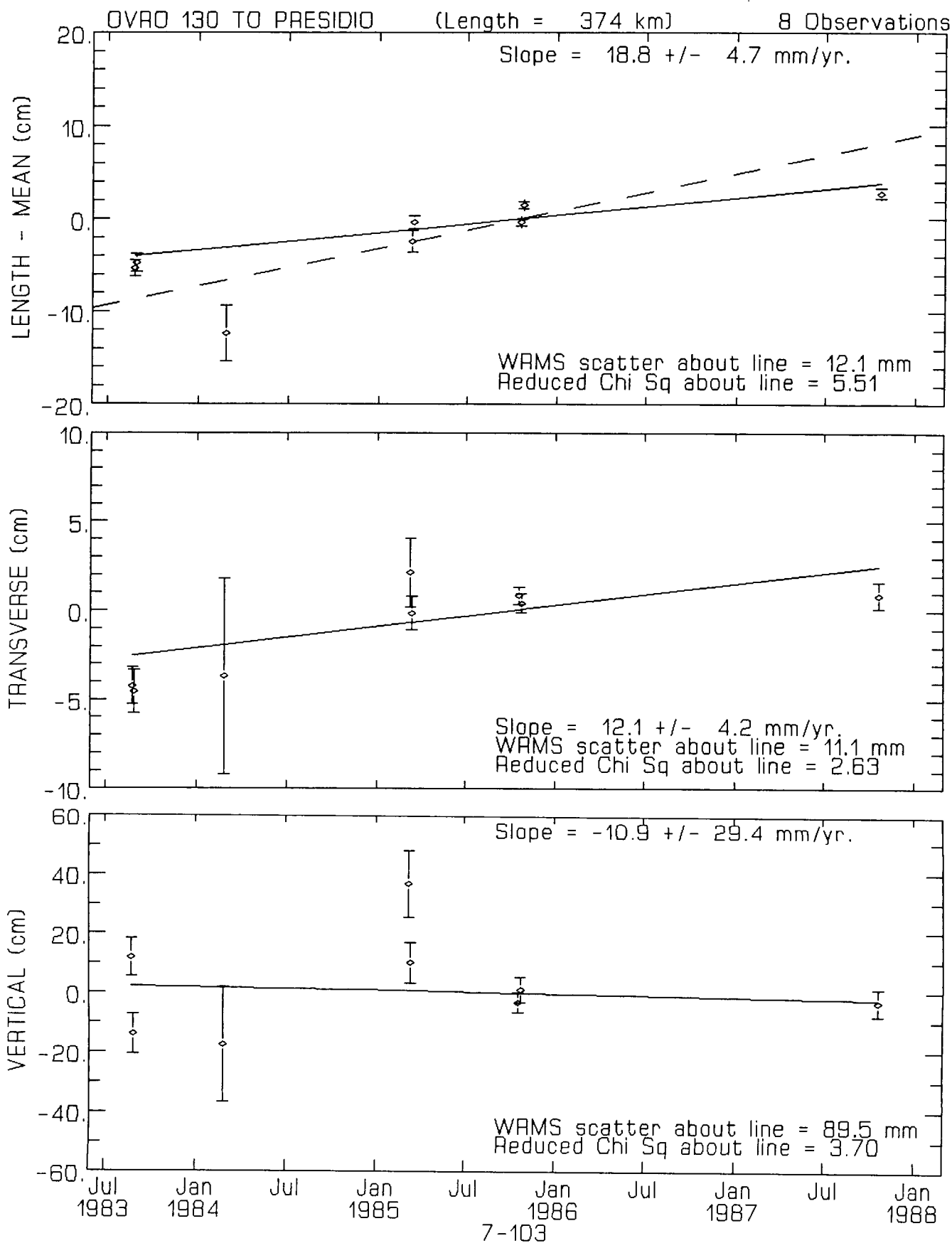
OVRO 130 TO PINFLATS

(Length = 434 km)

7 Observations

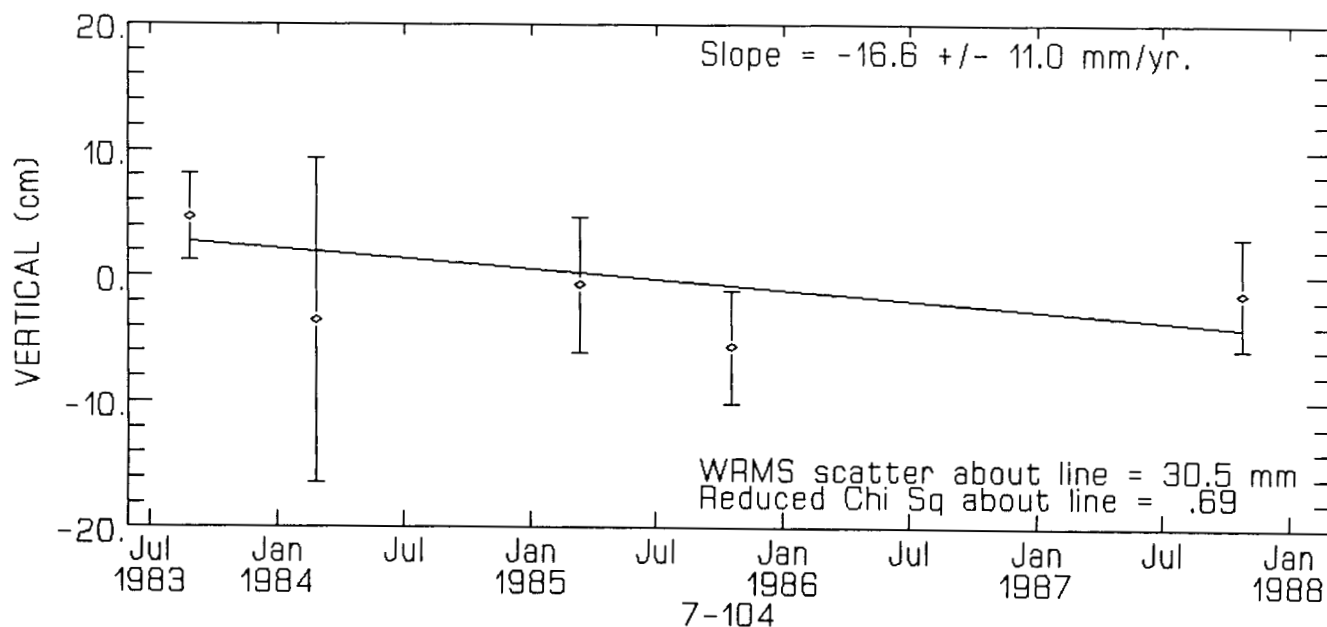
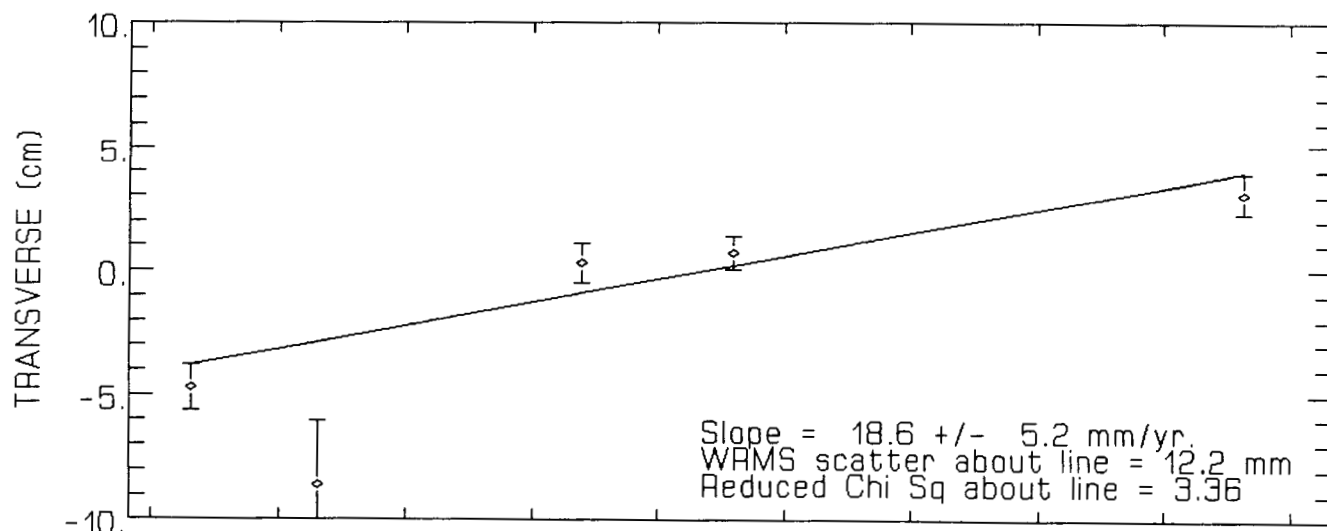
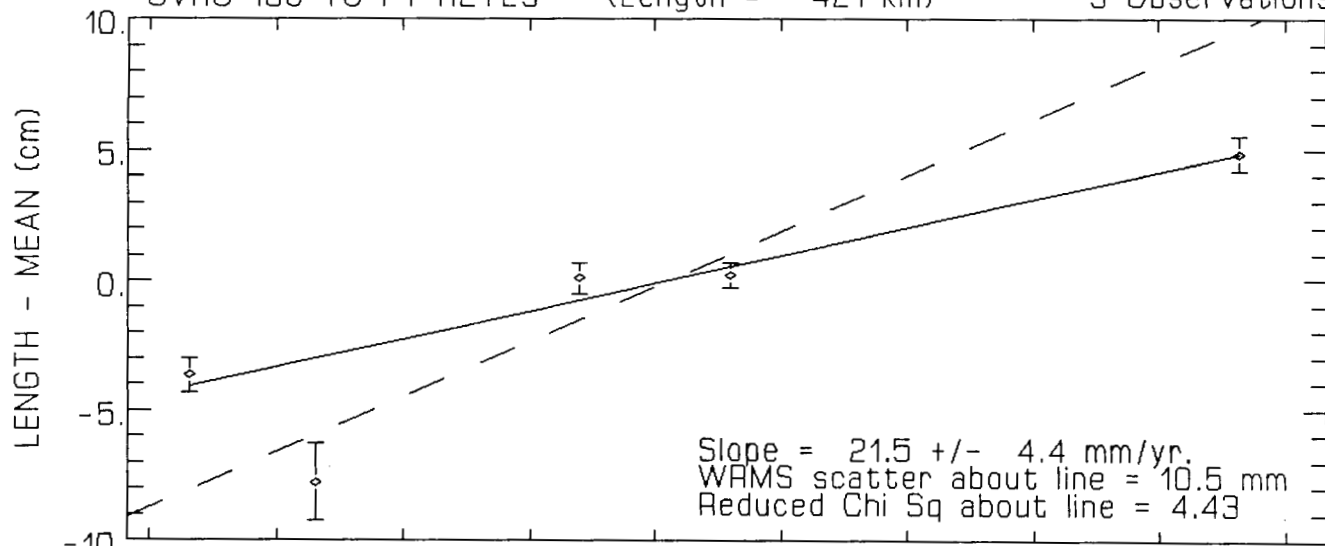






OVRO 130 TO PT REYES (Length = 421 km)

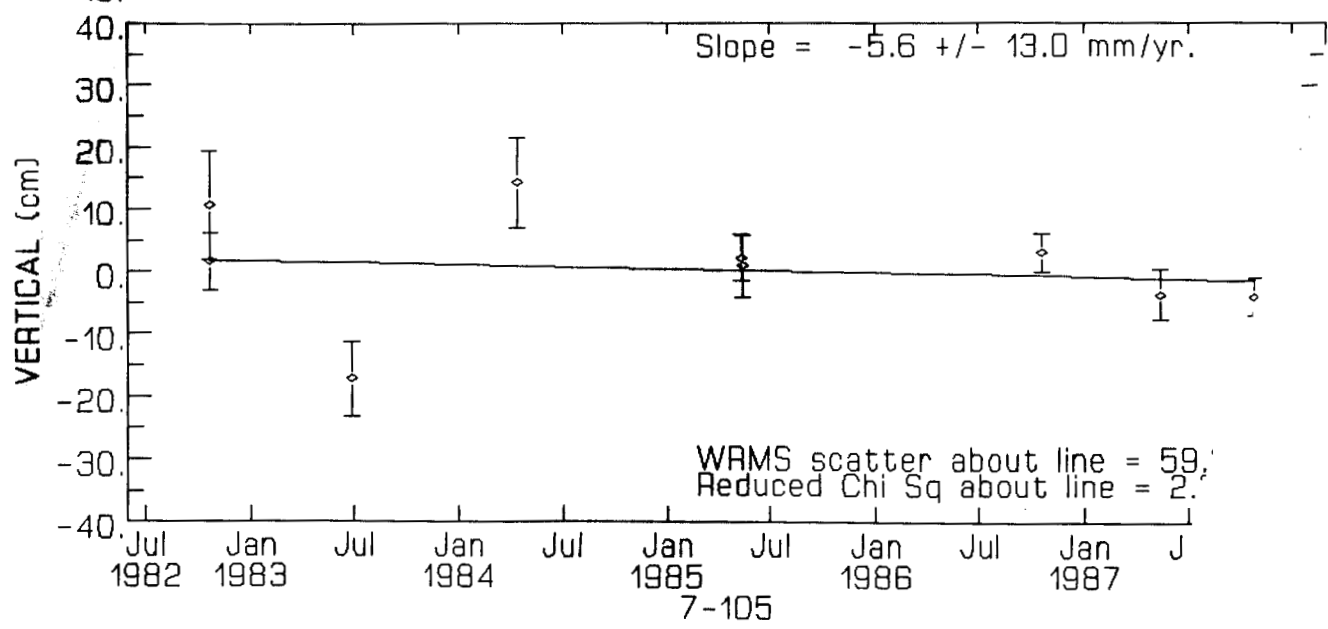
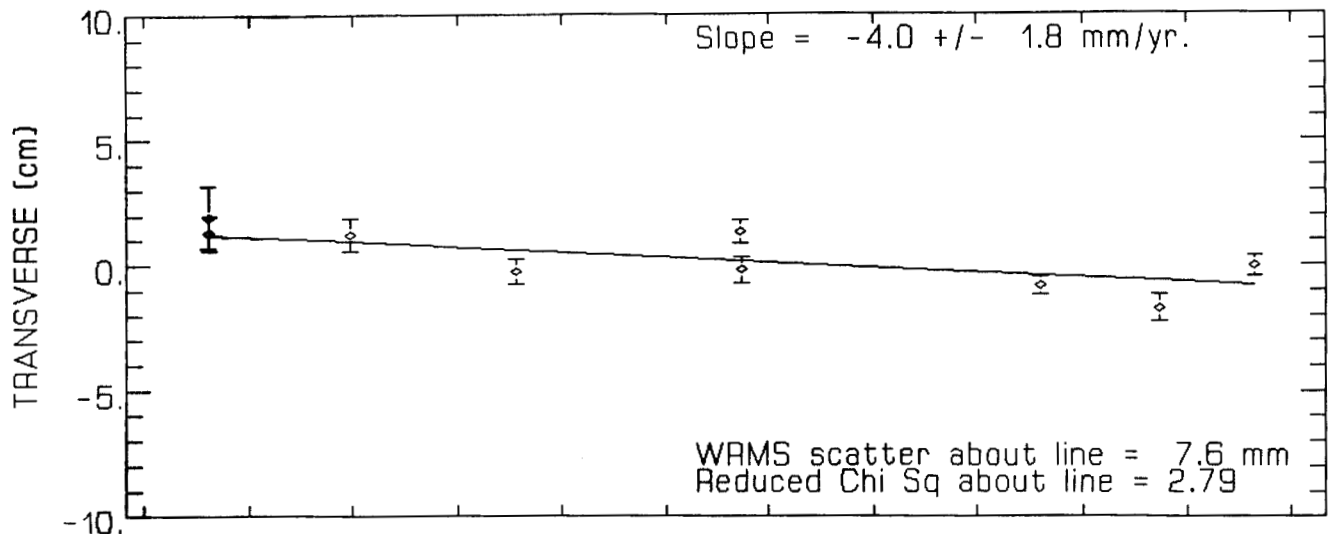
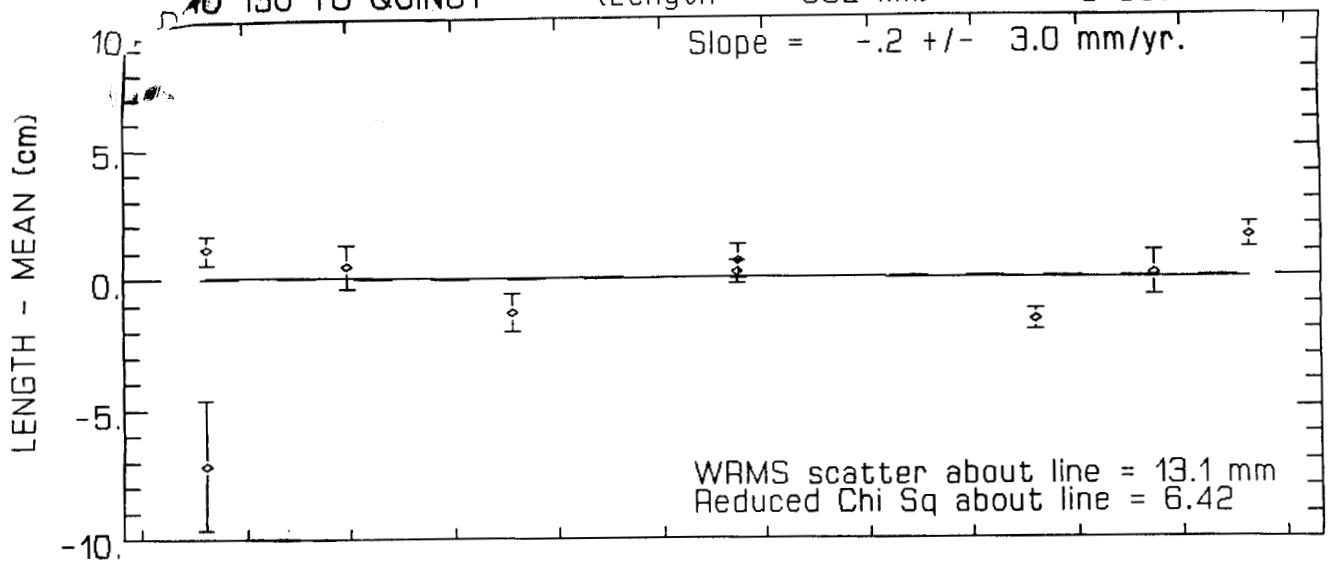
5 Observations

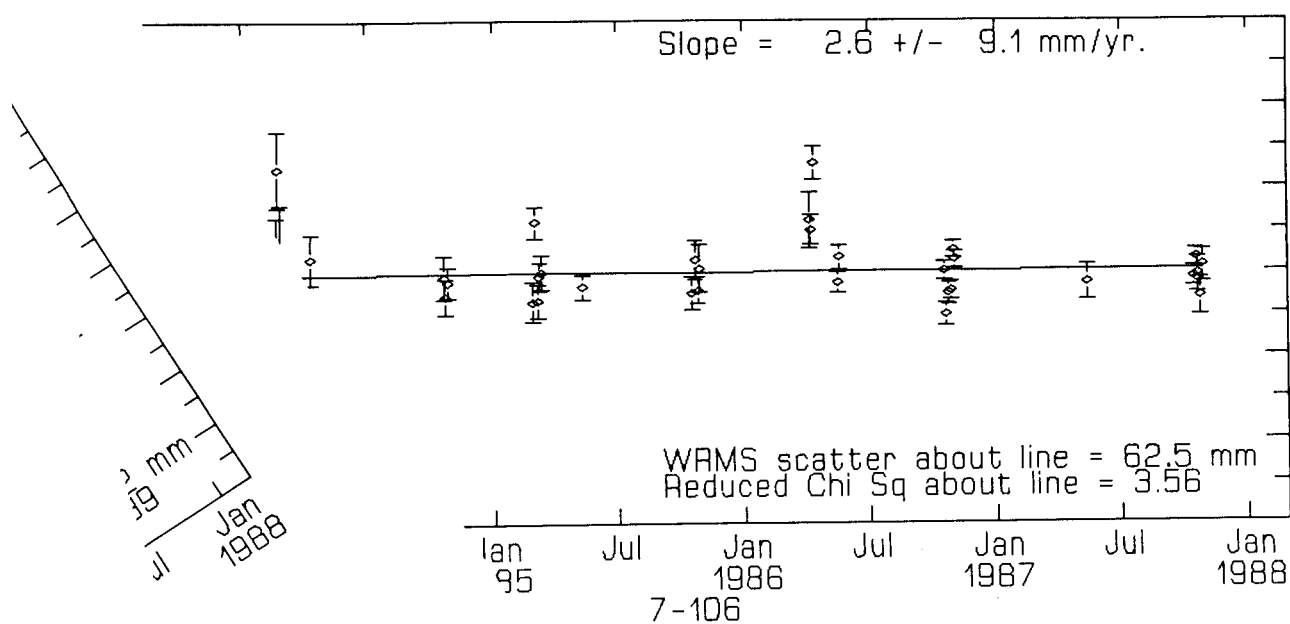
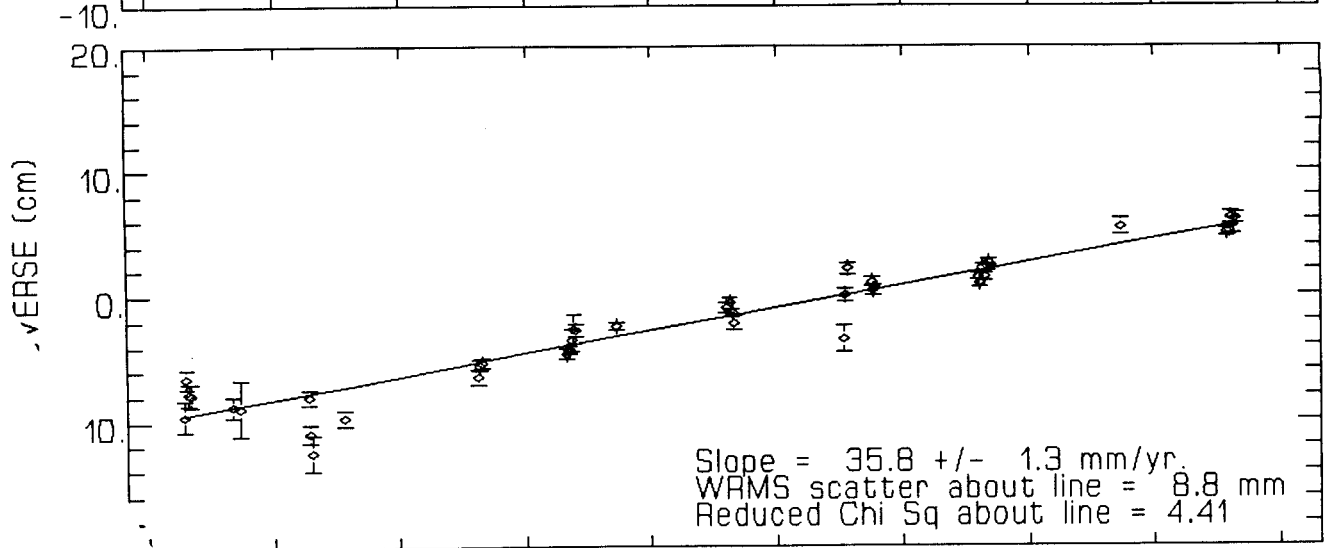
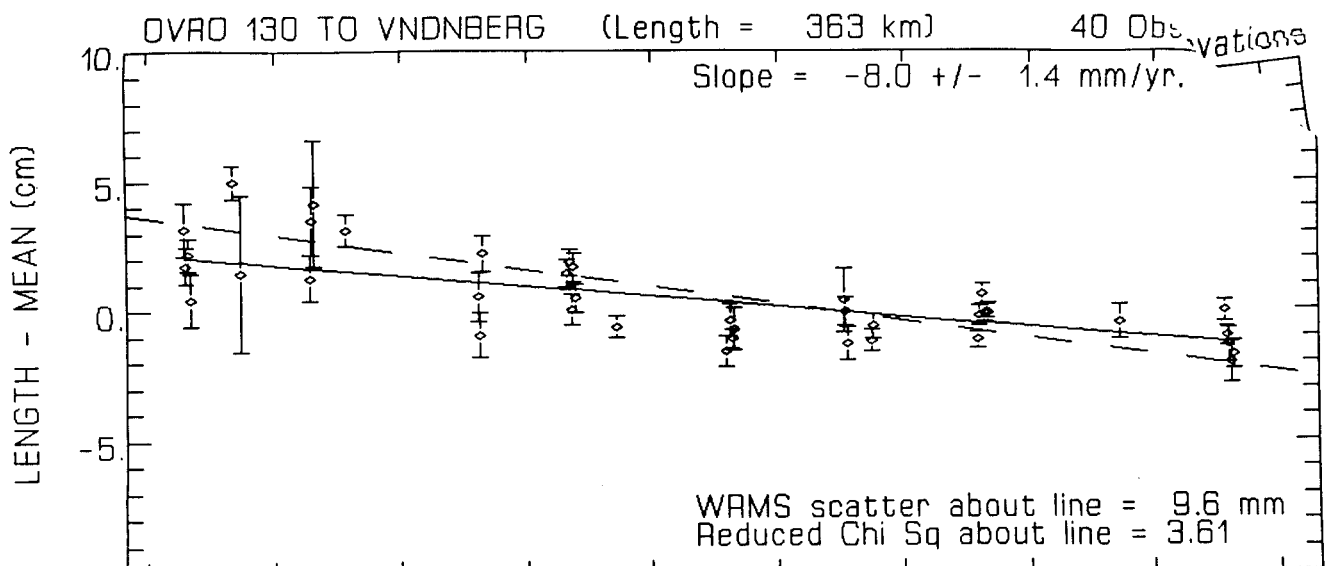


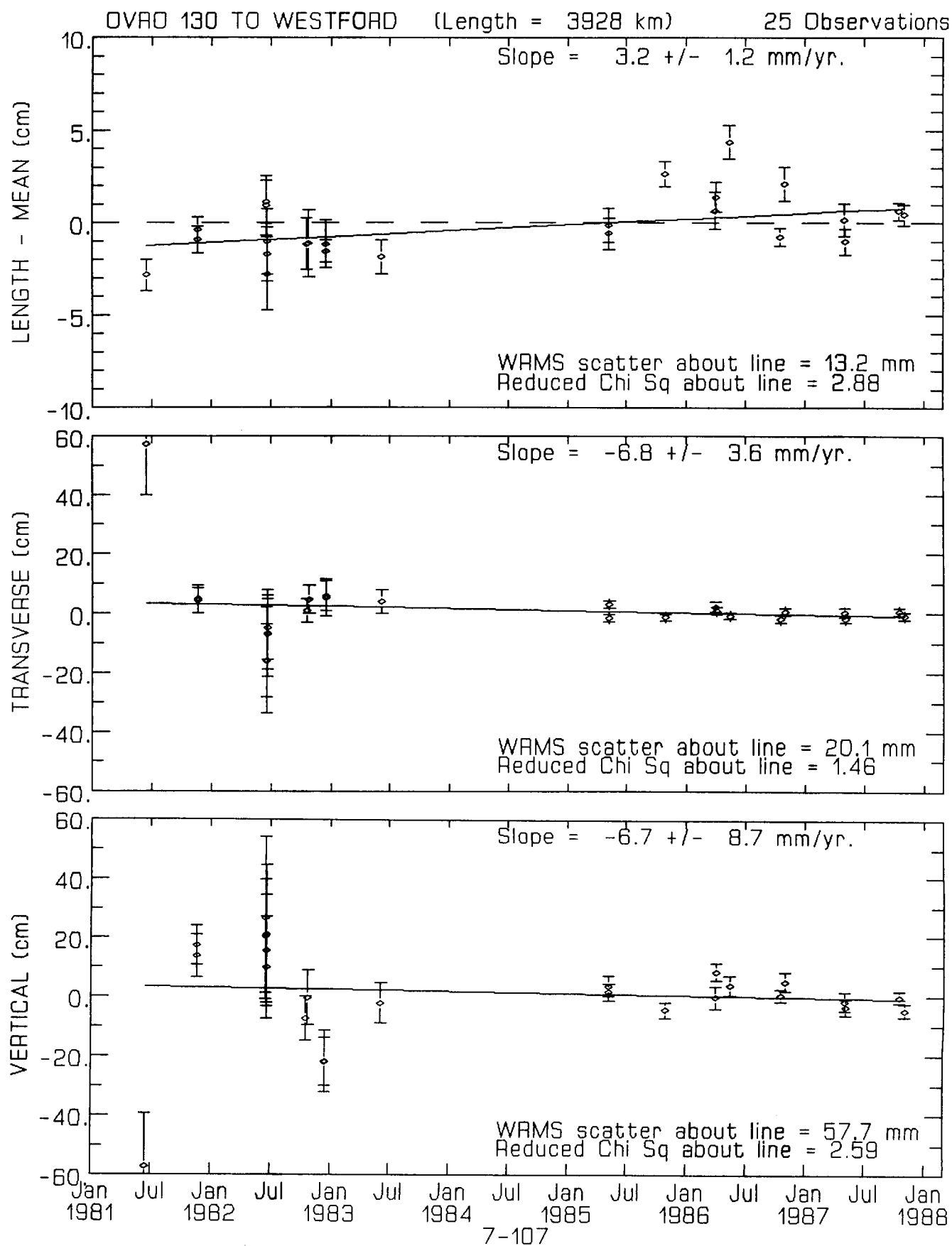
10 130 TO QUINCY

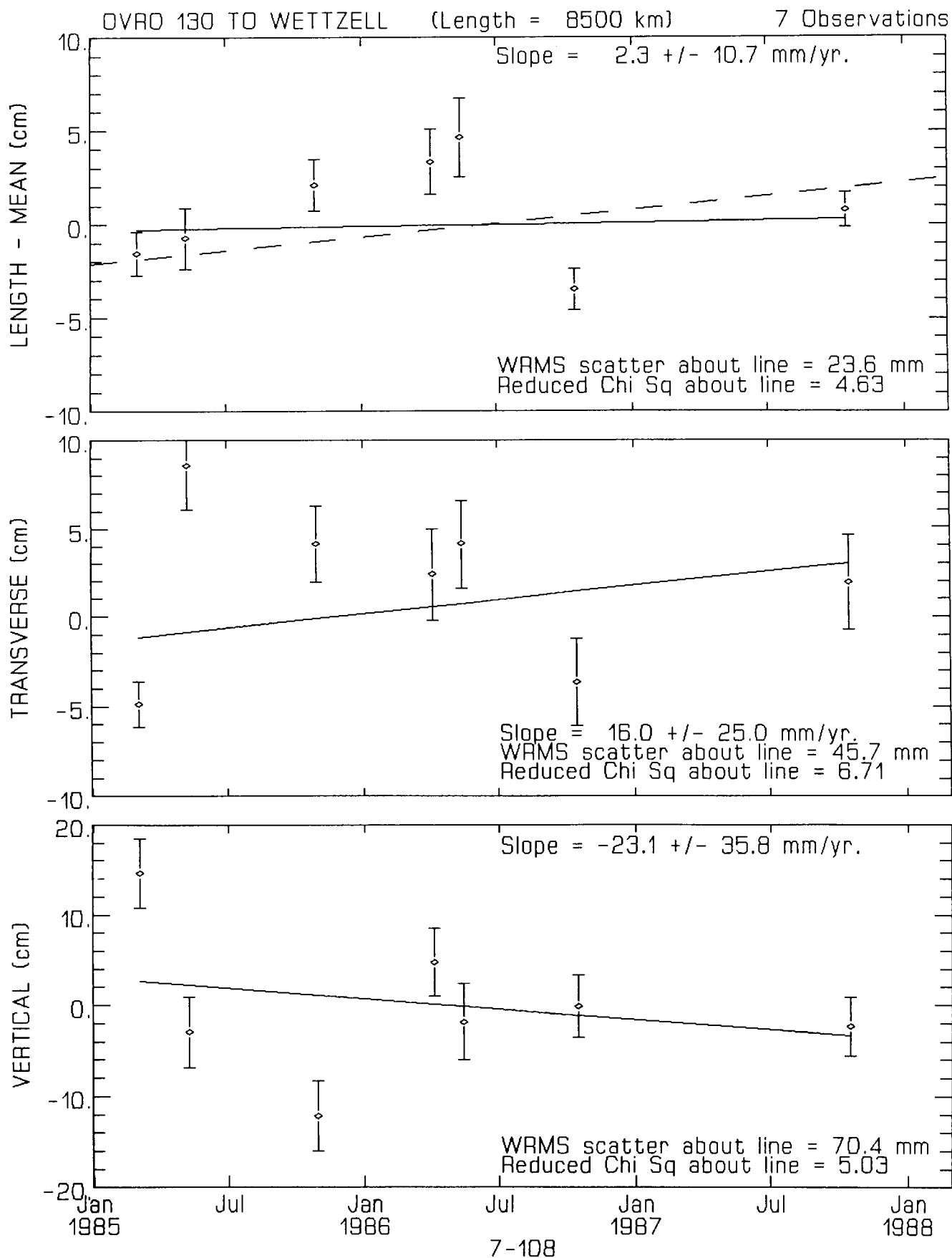
(Length = 382 km)

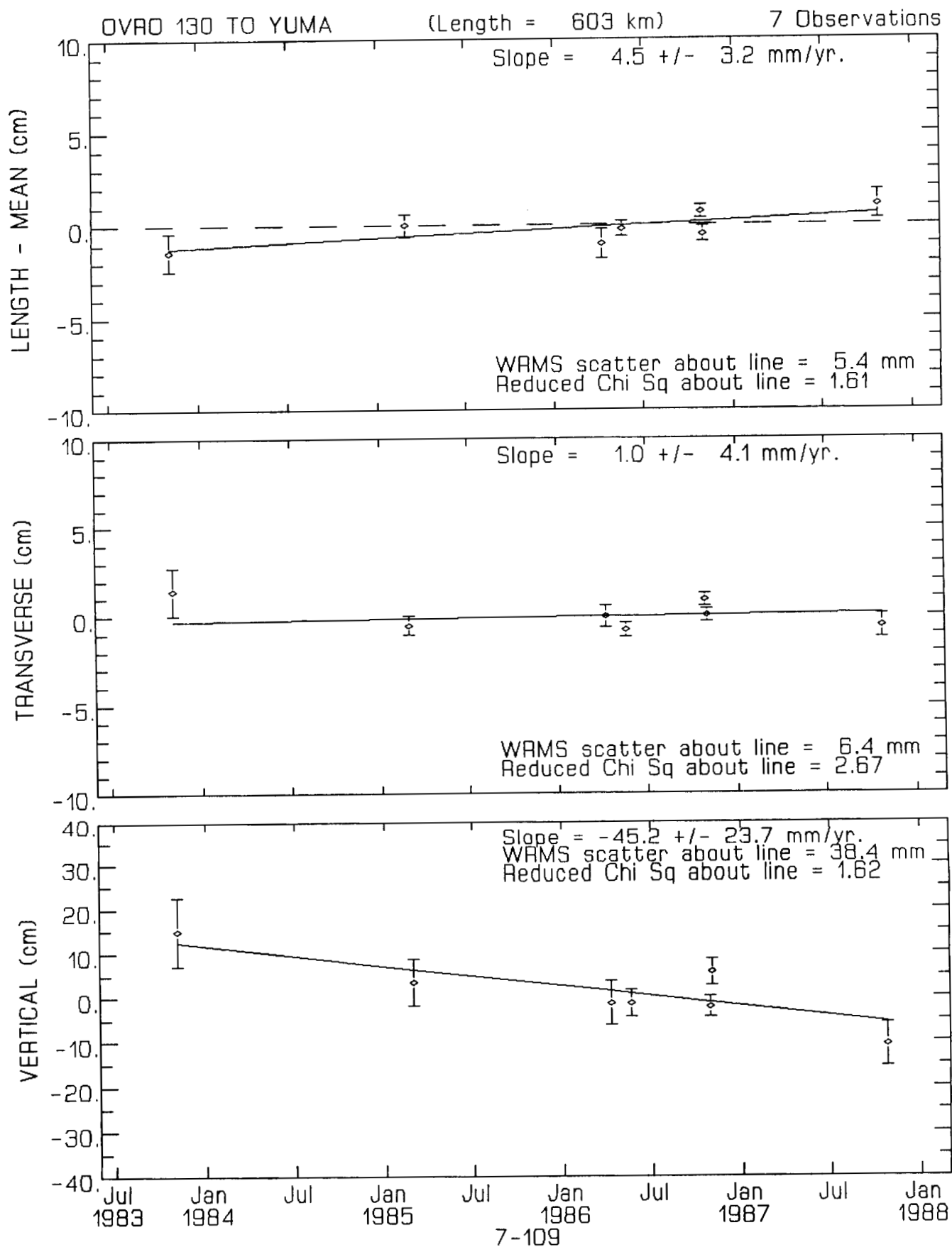
9 Observations

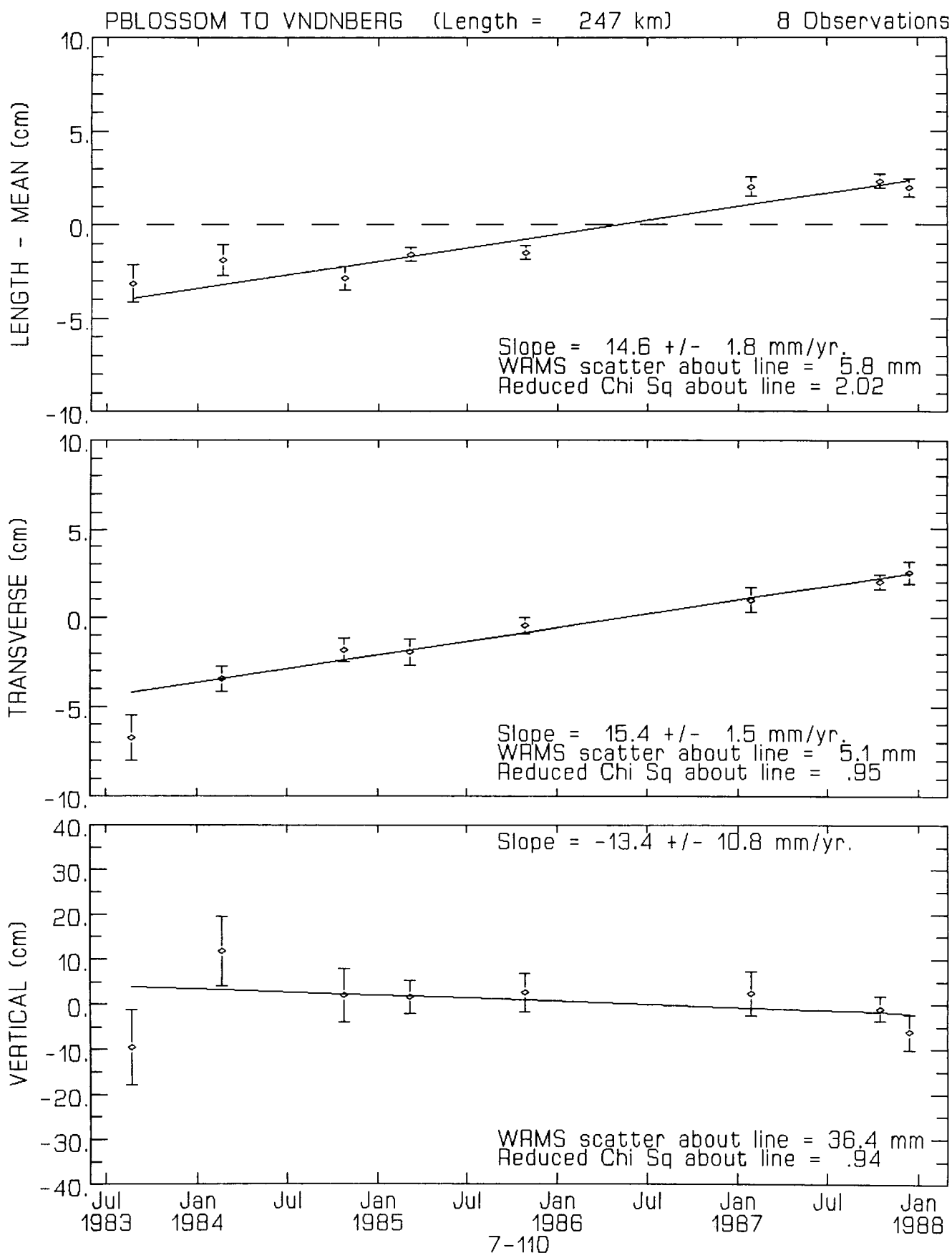


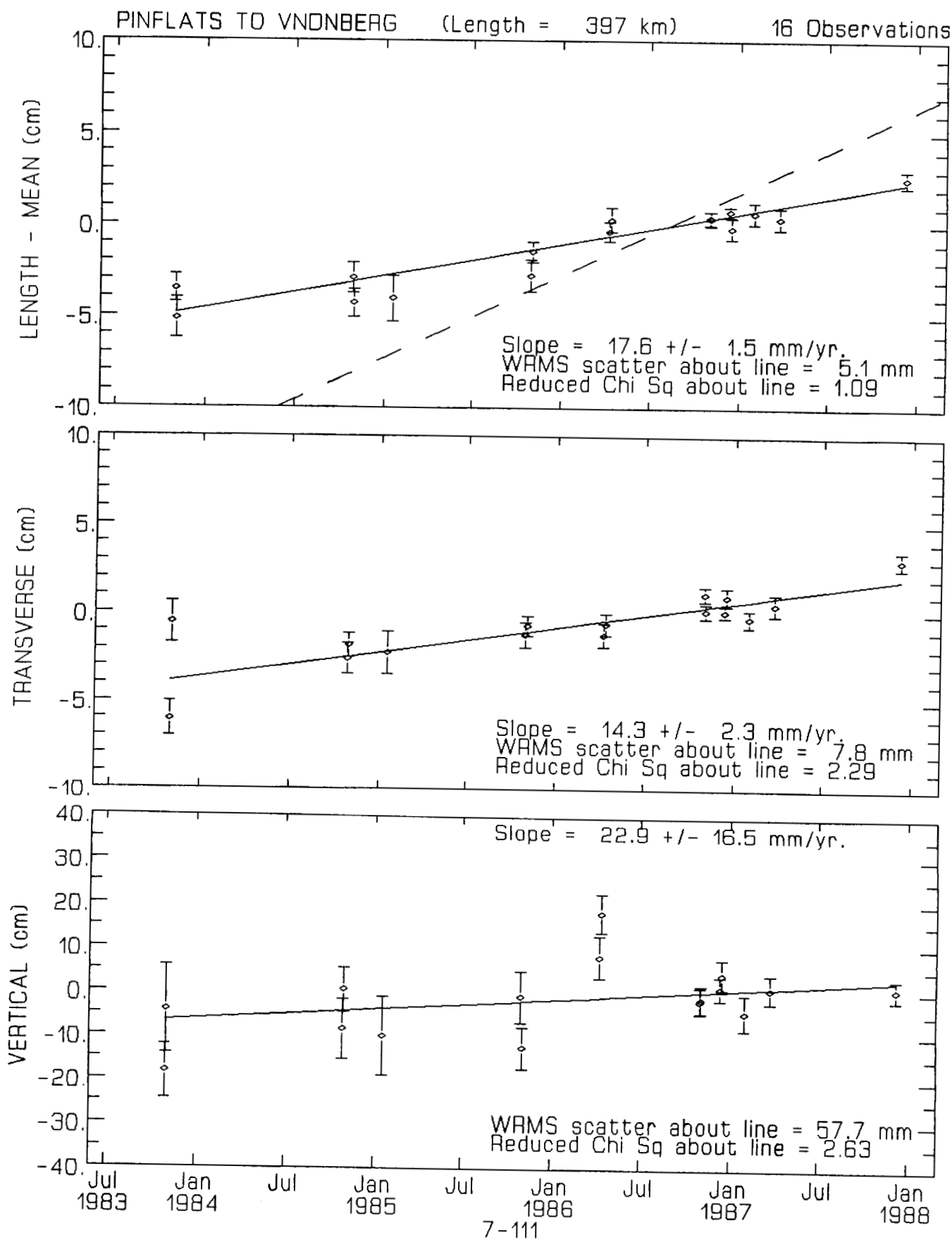


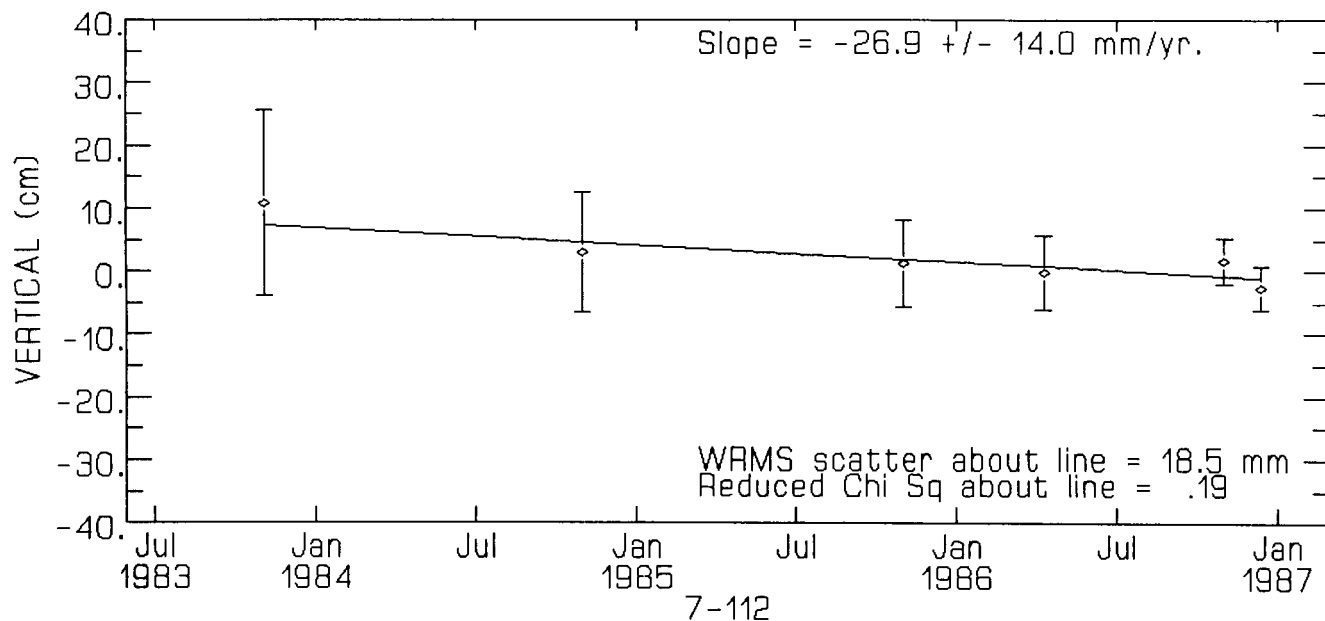
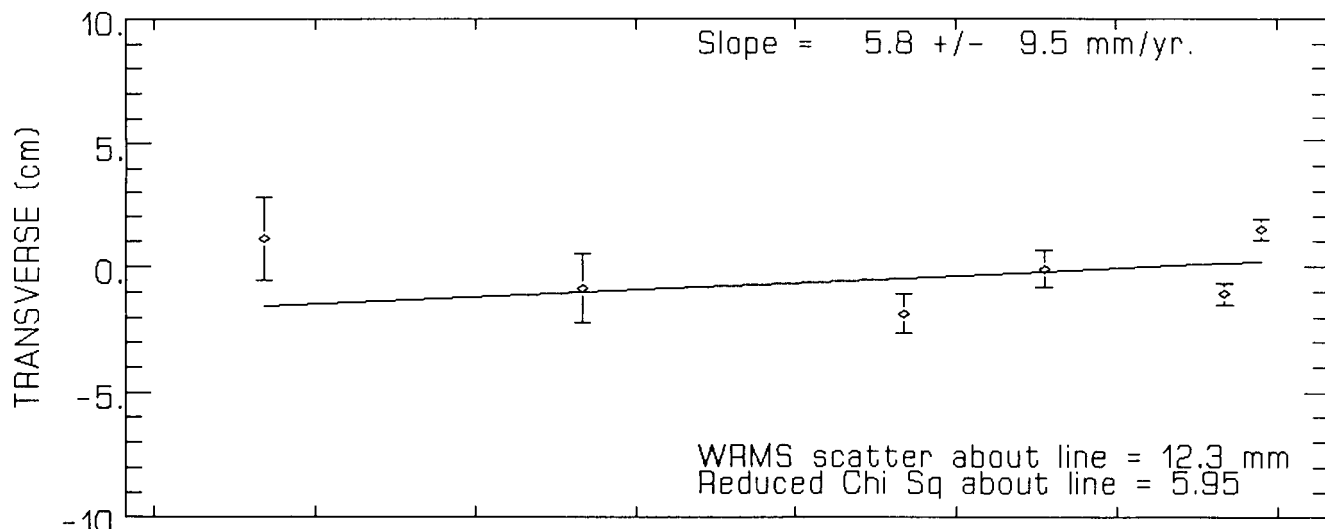
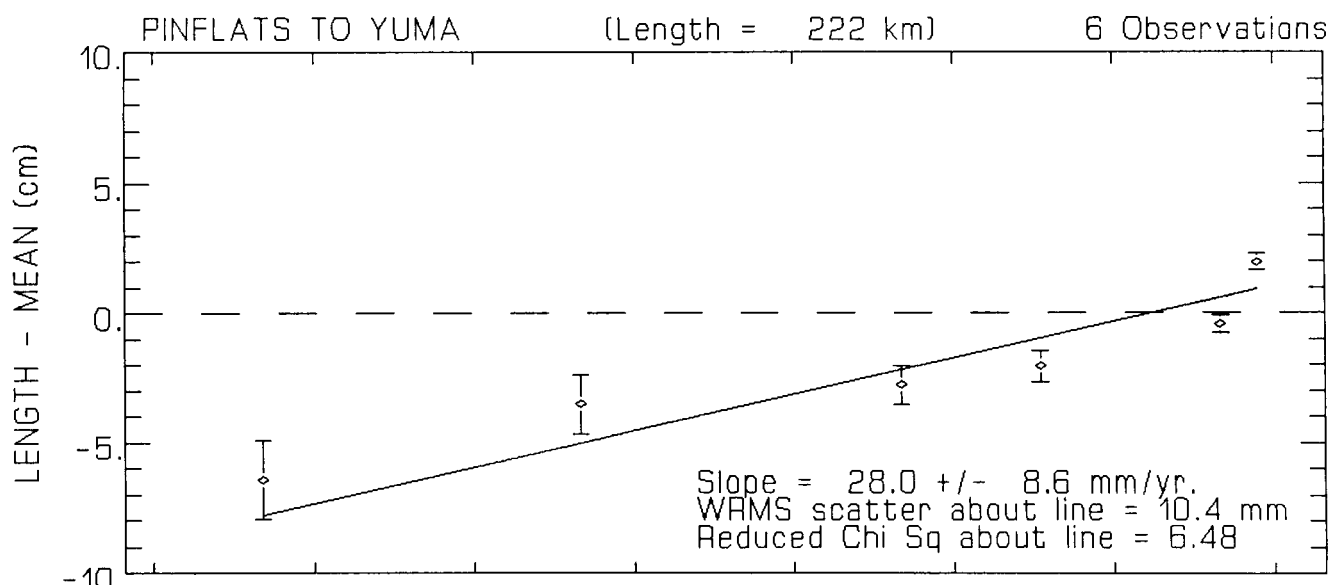


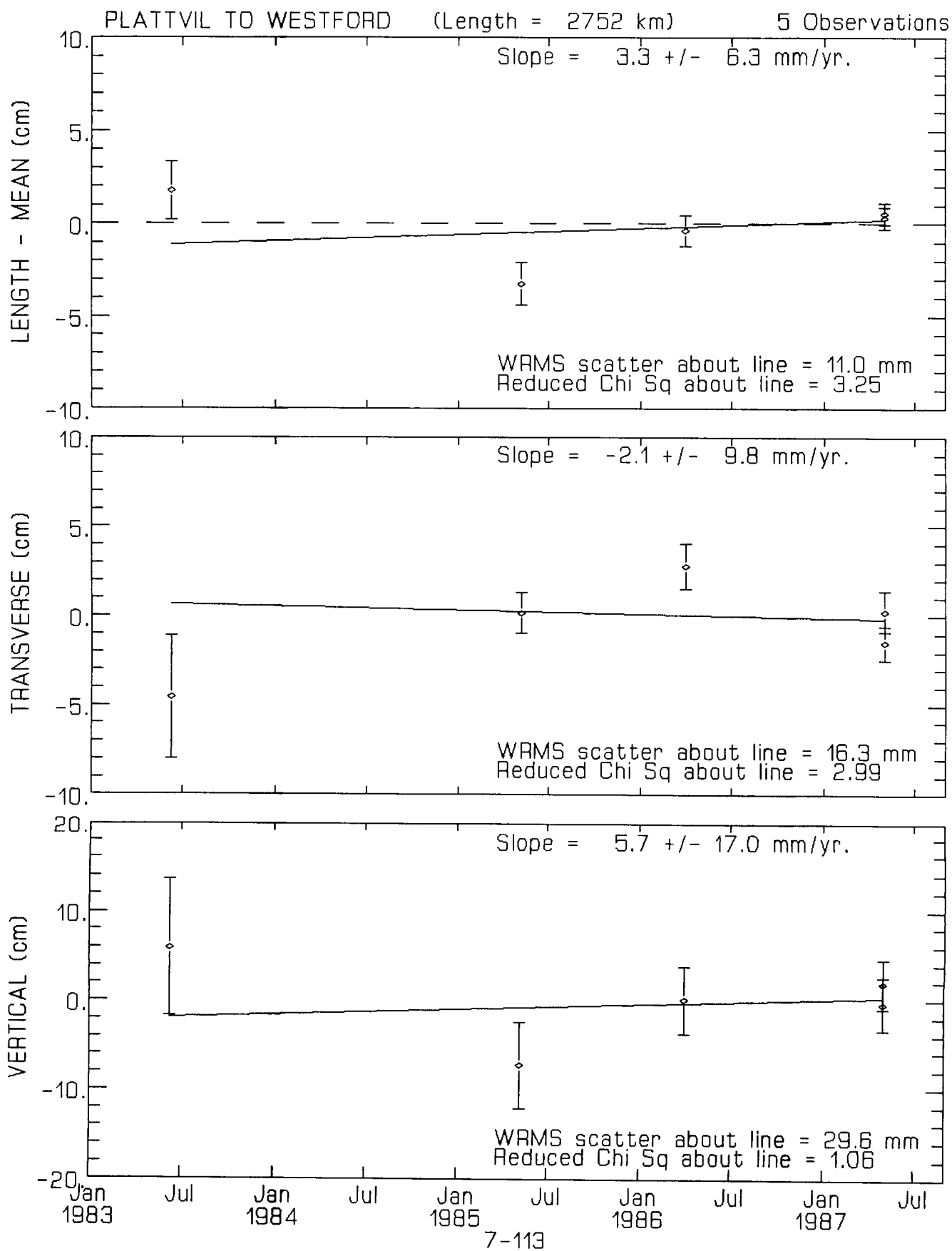








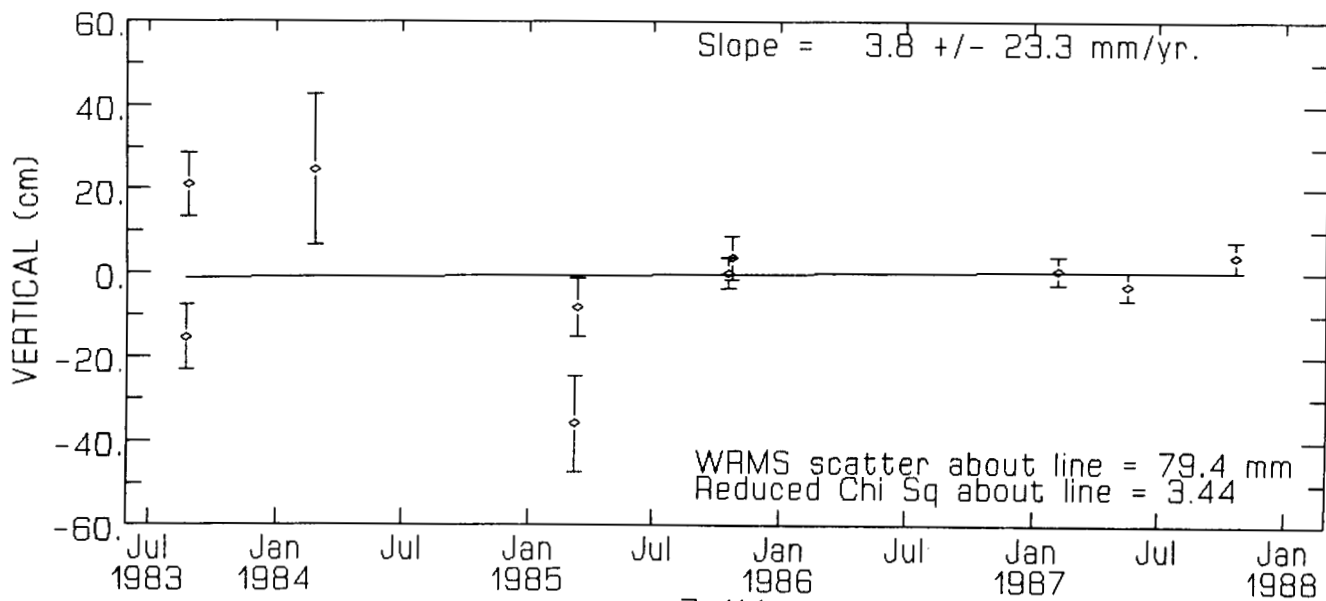
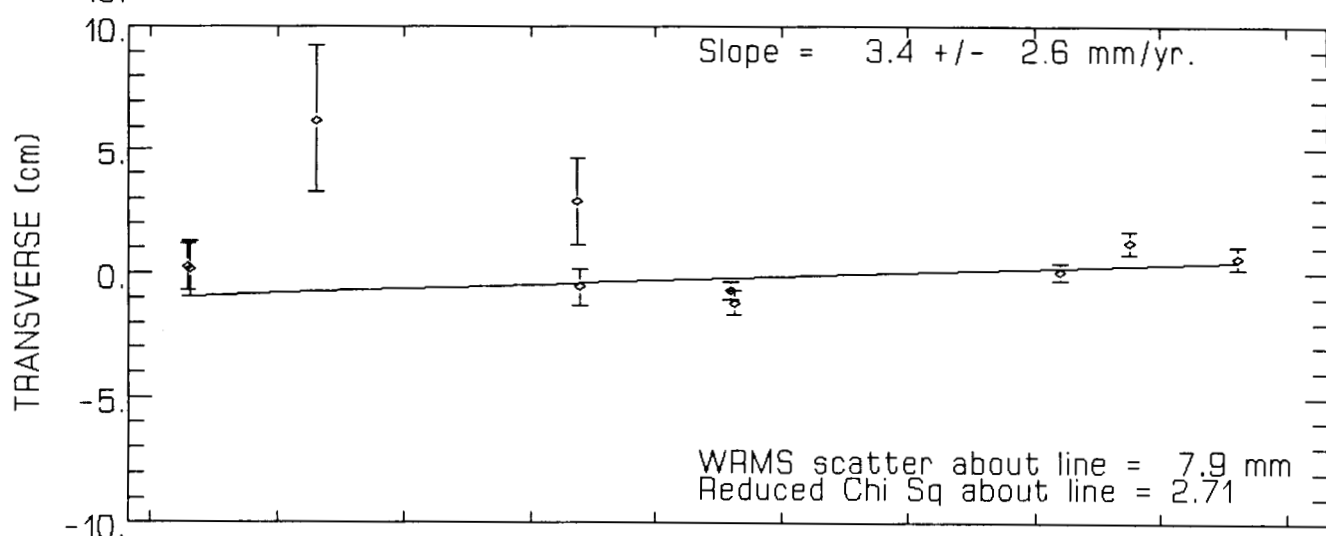
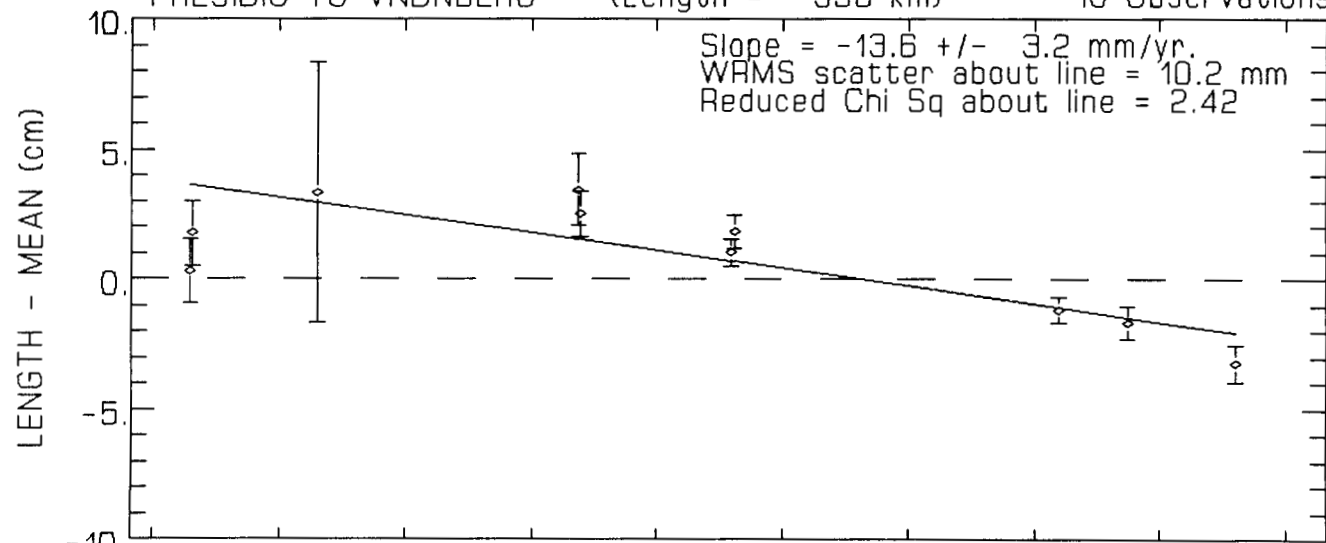


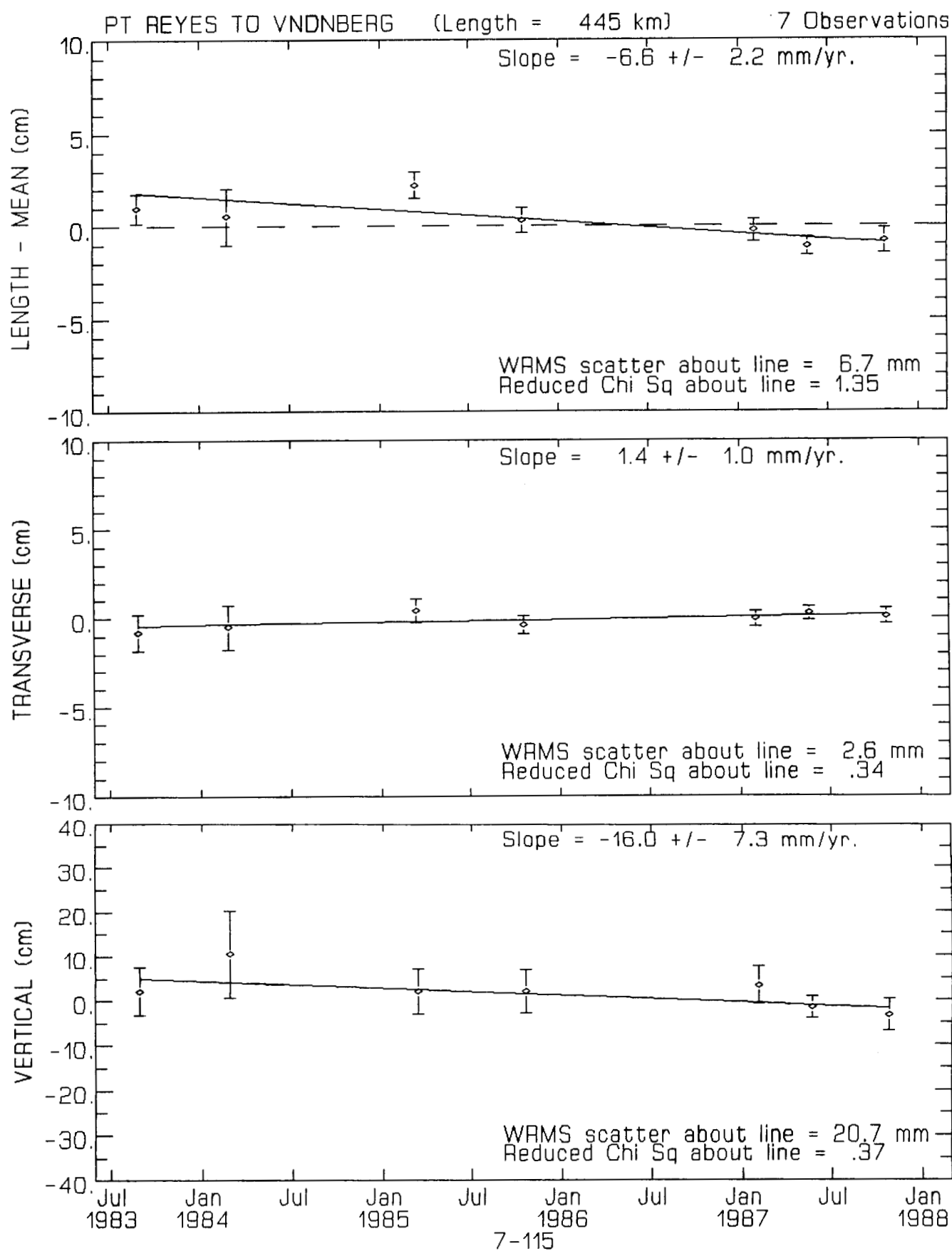


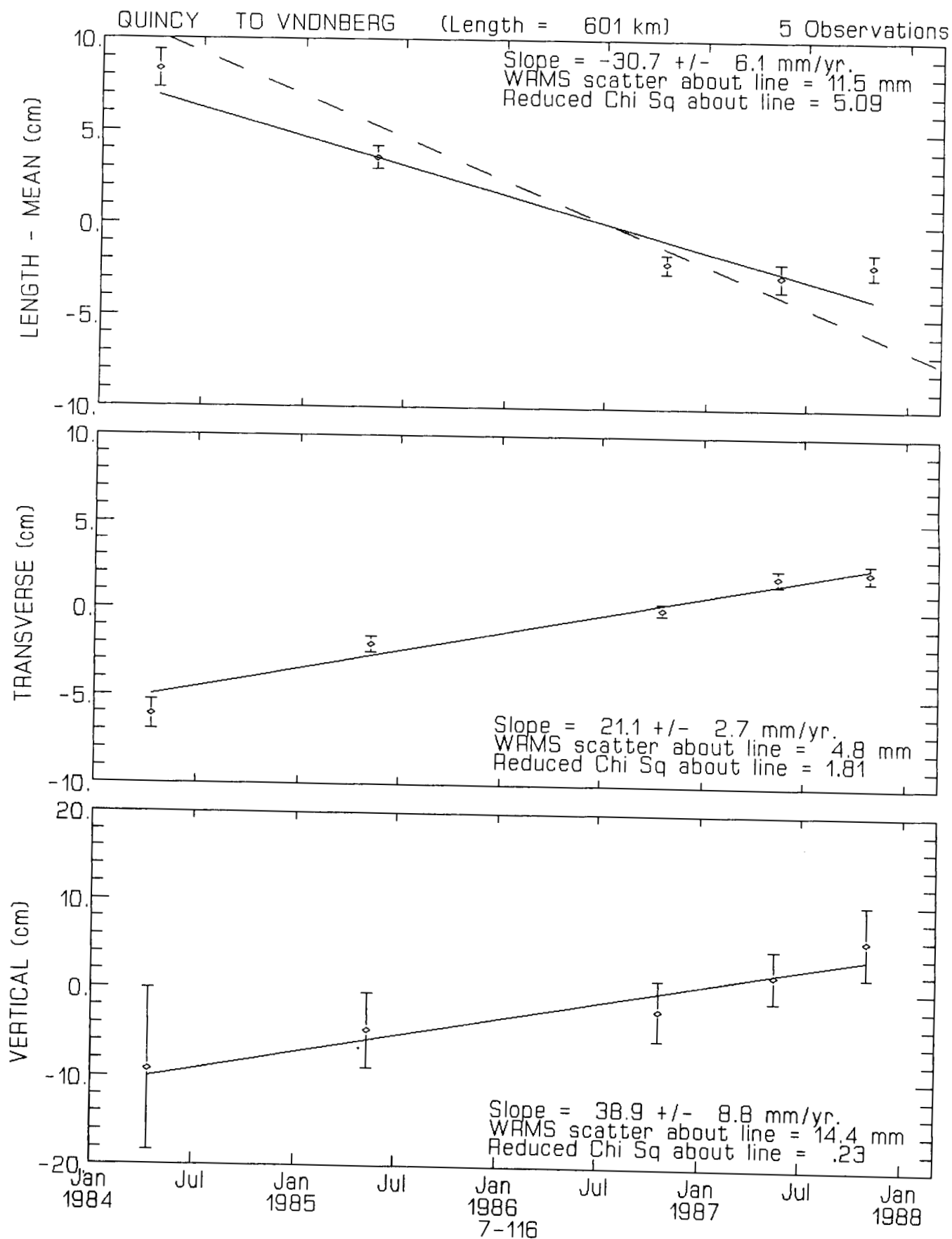
PRESIDIO TO VNDNBERG

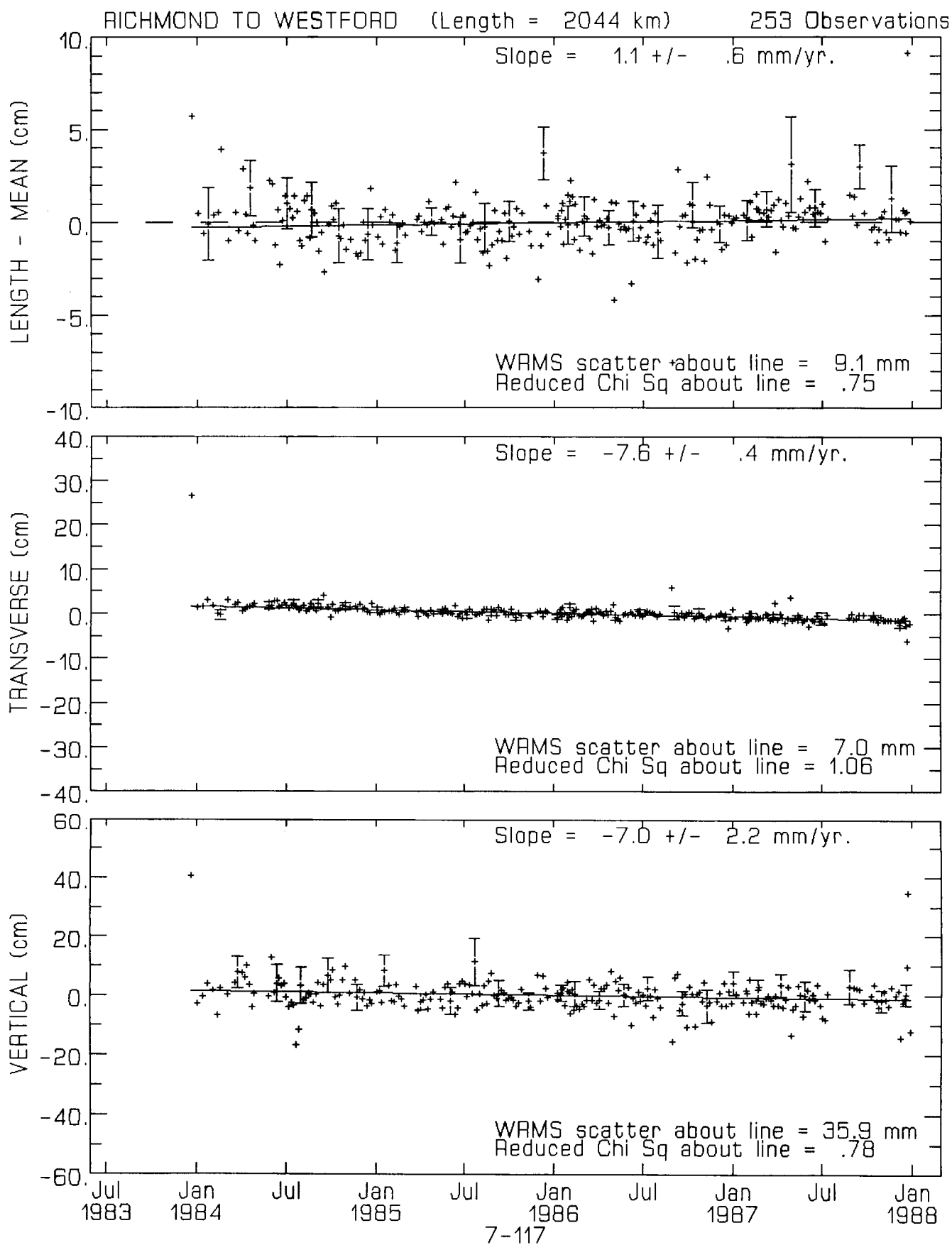
(Length = 396 km)

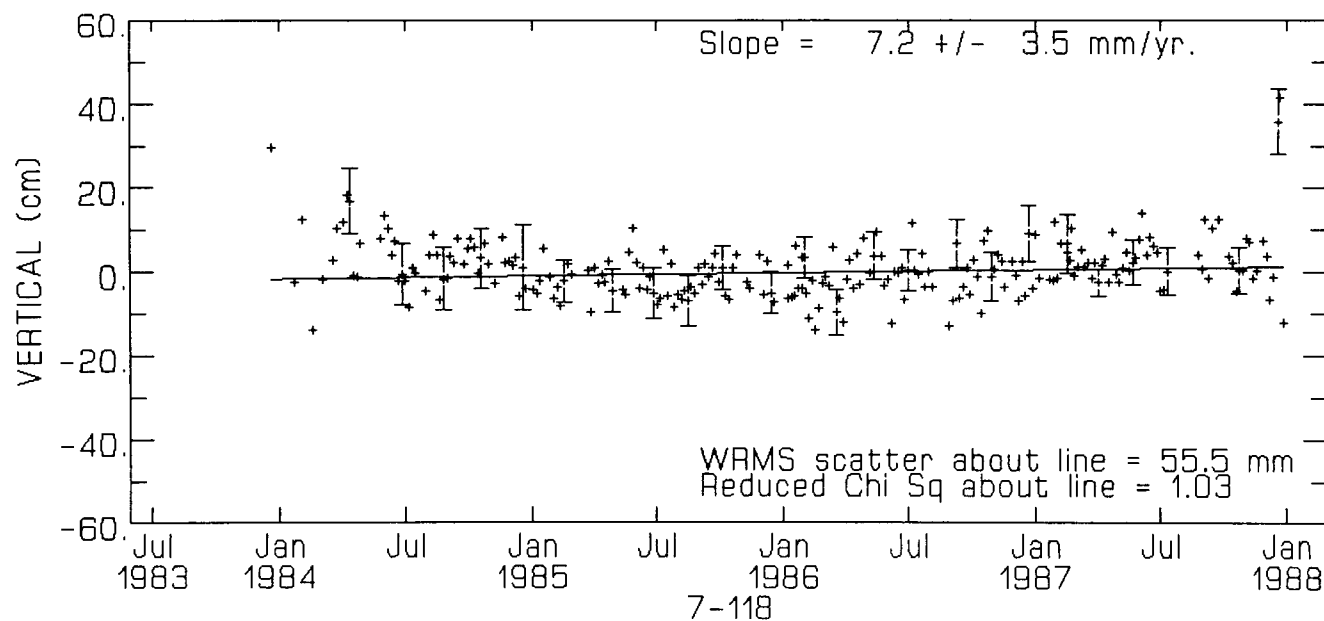
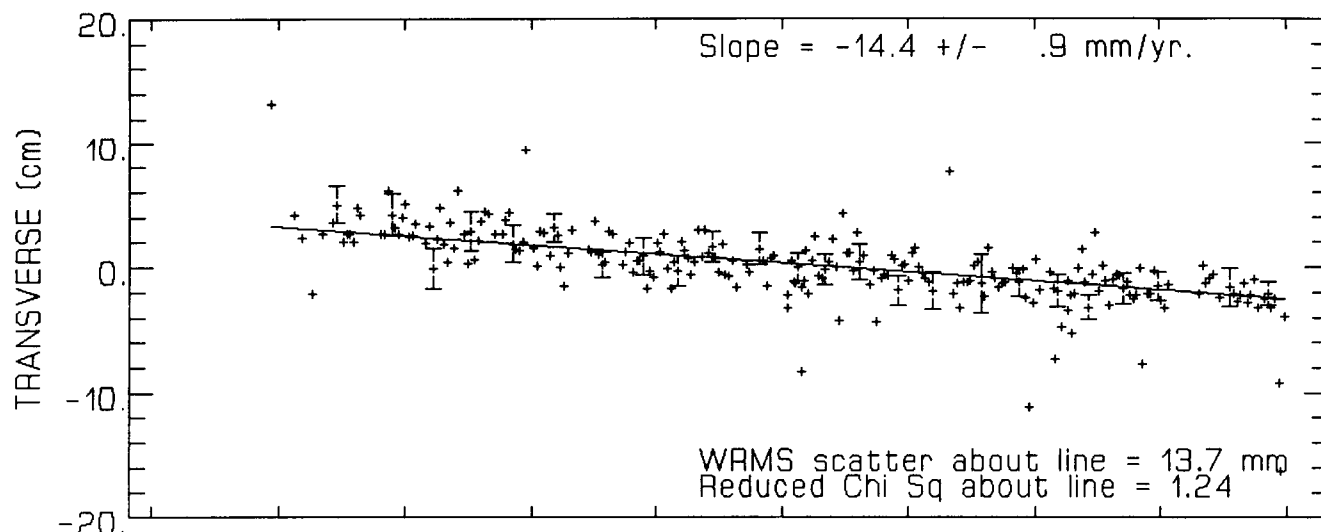
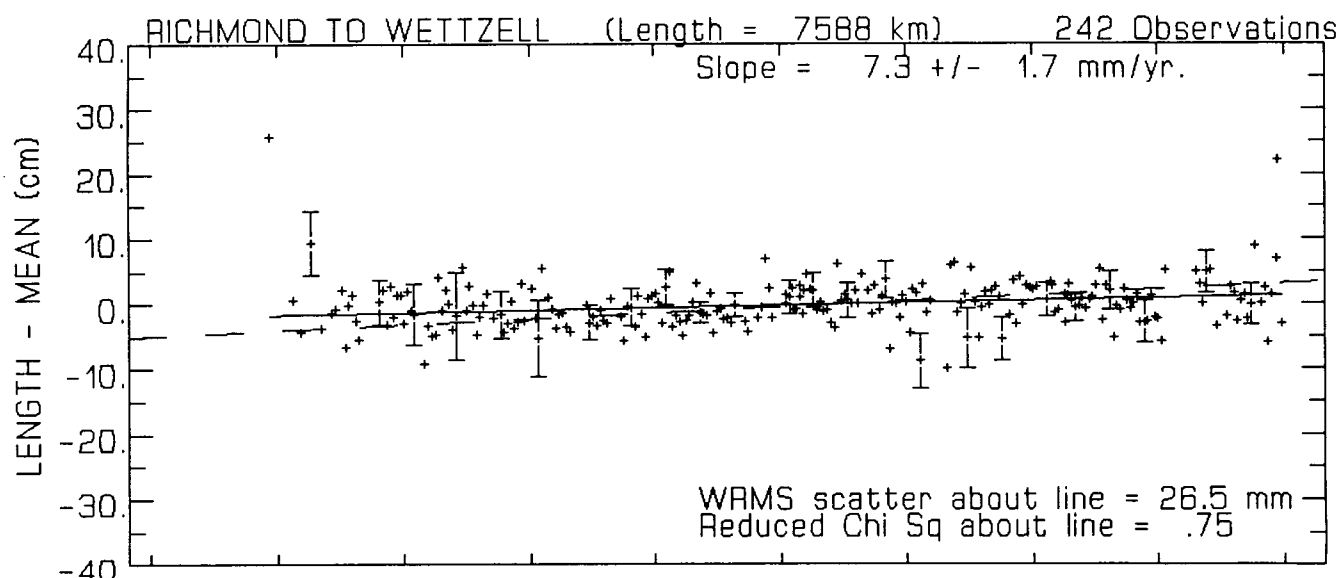
10 Observations

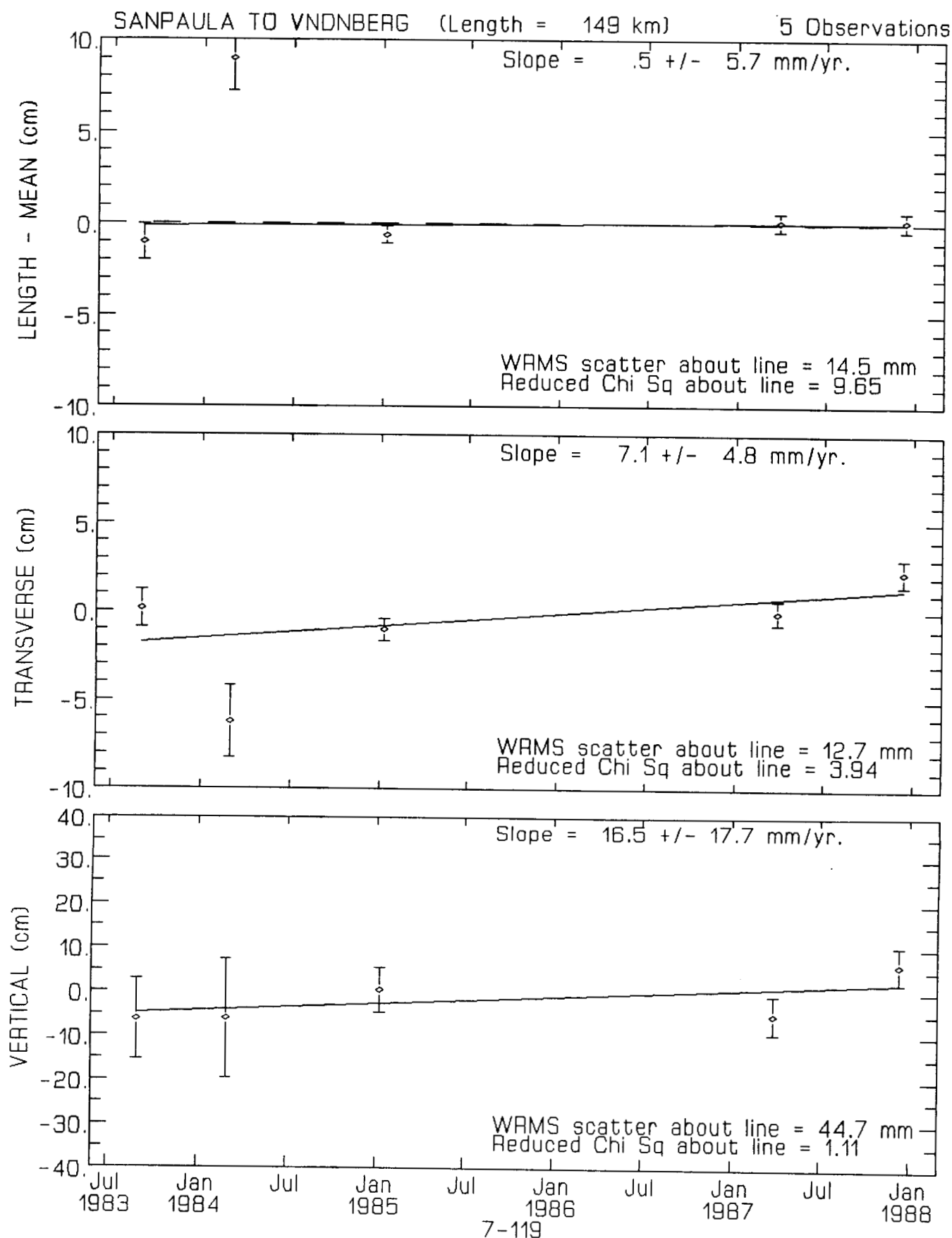


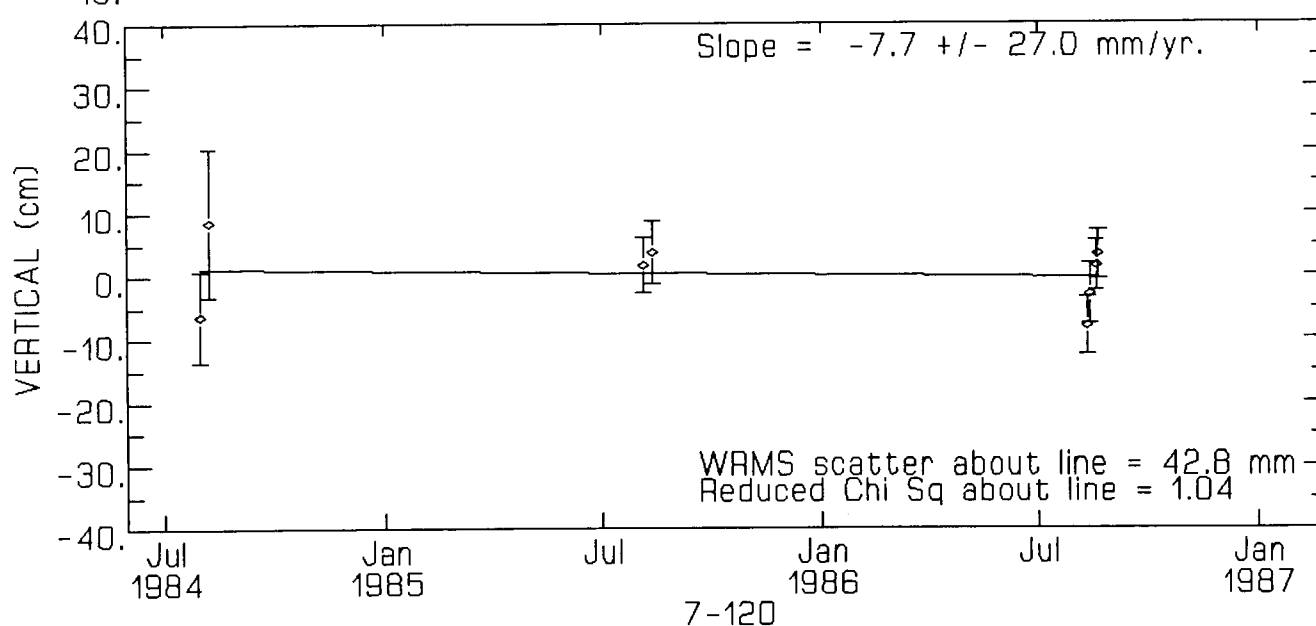
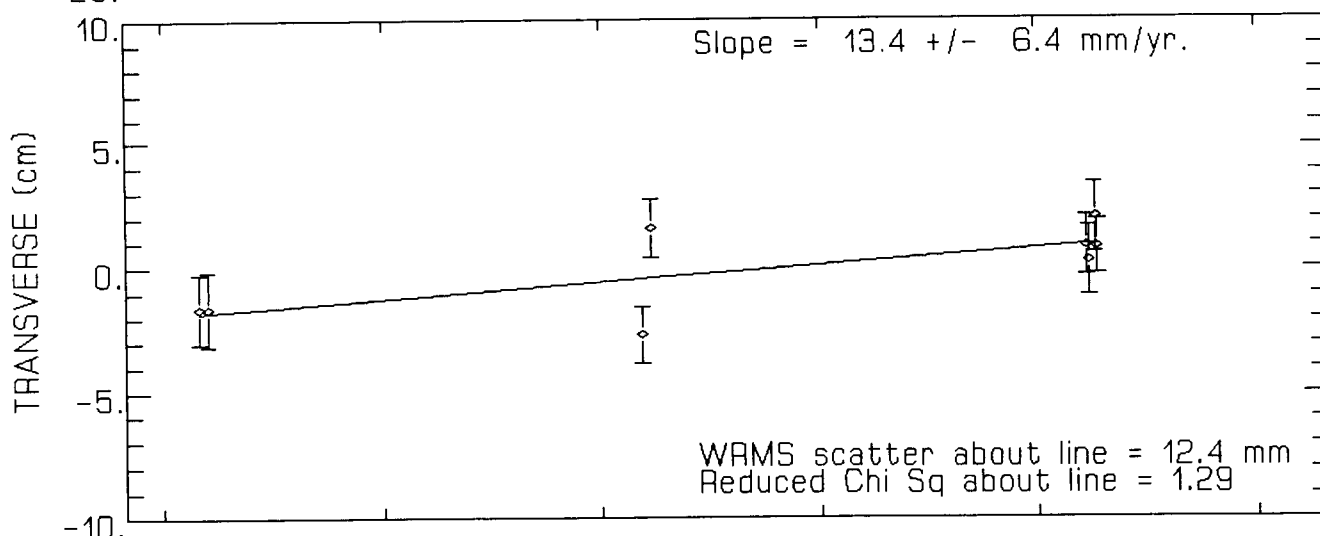
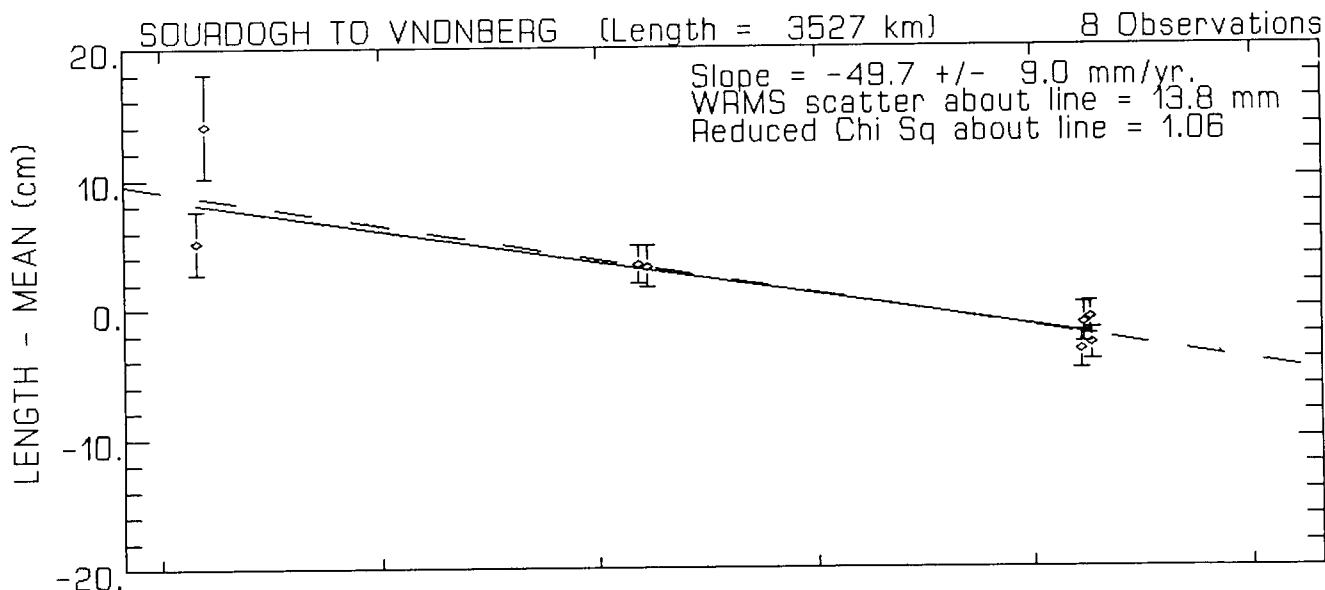


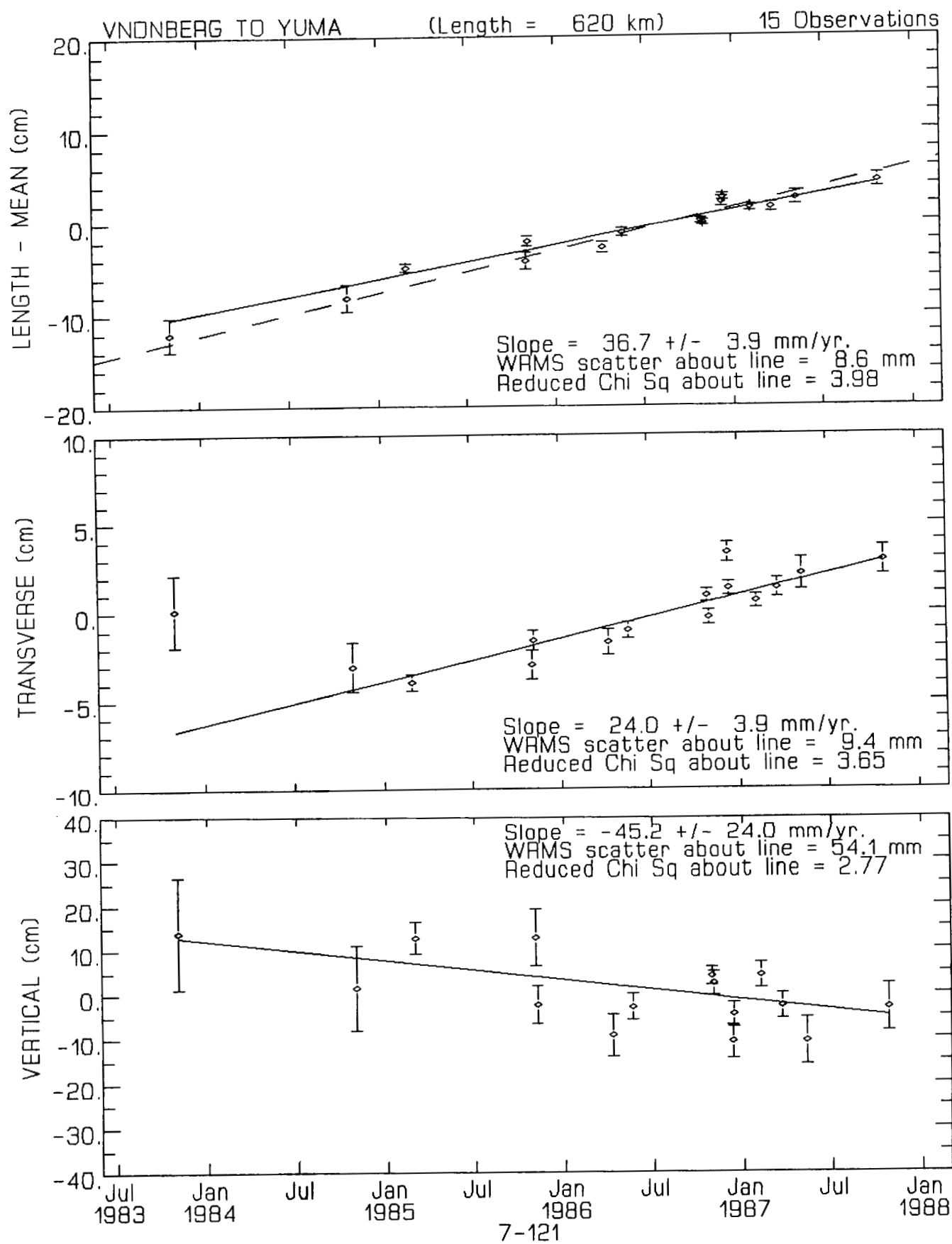












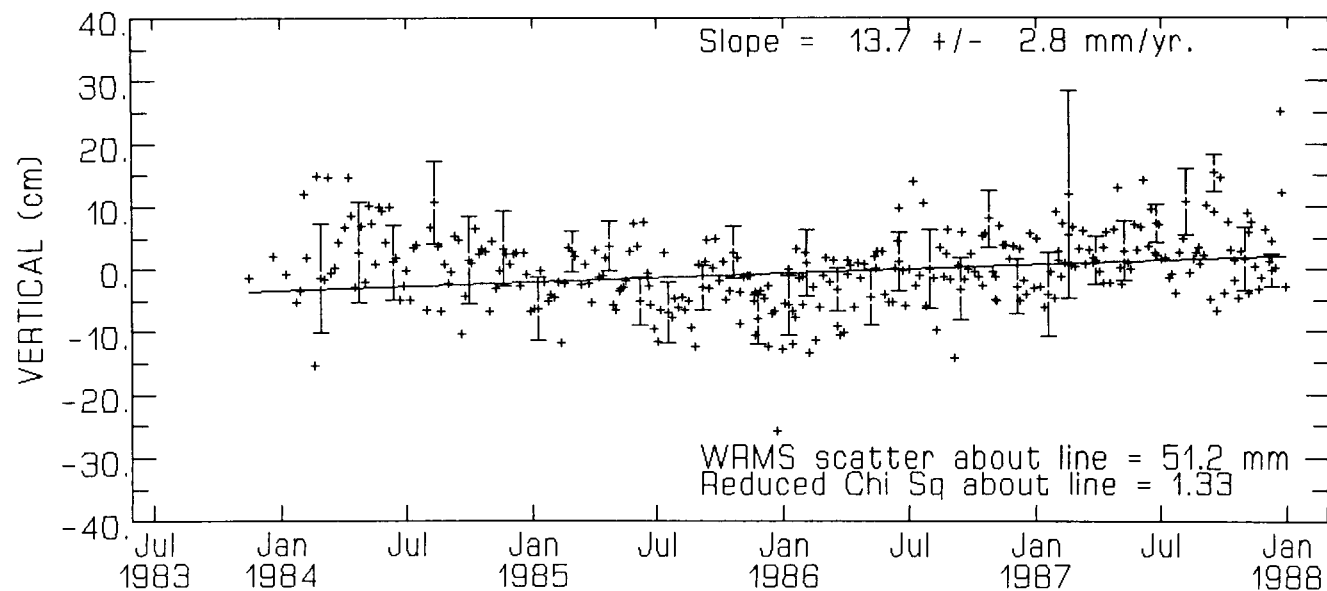
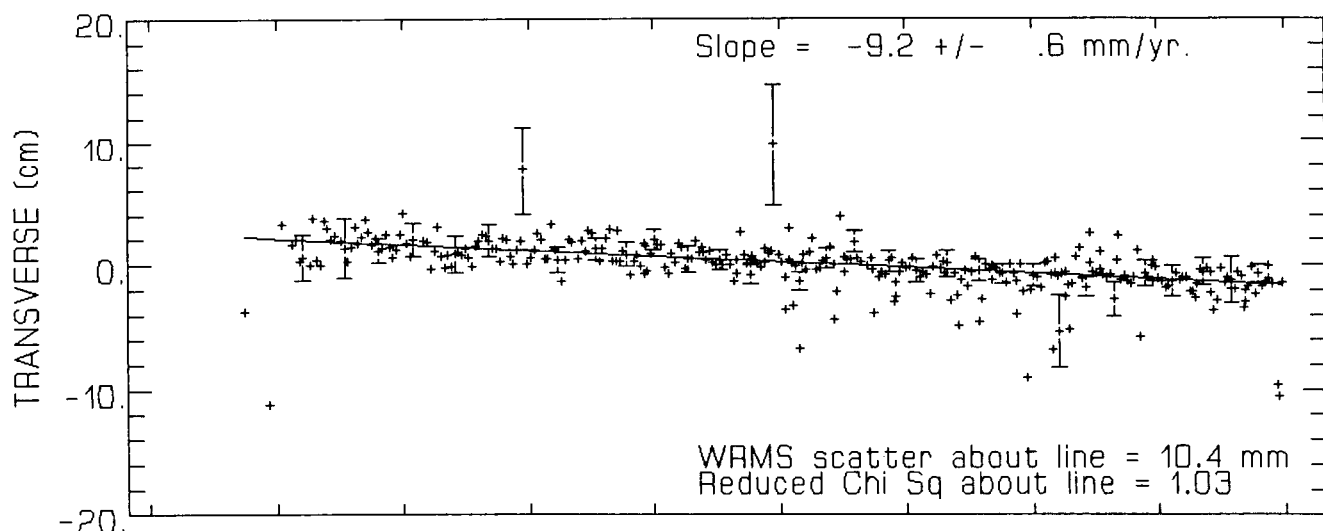
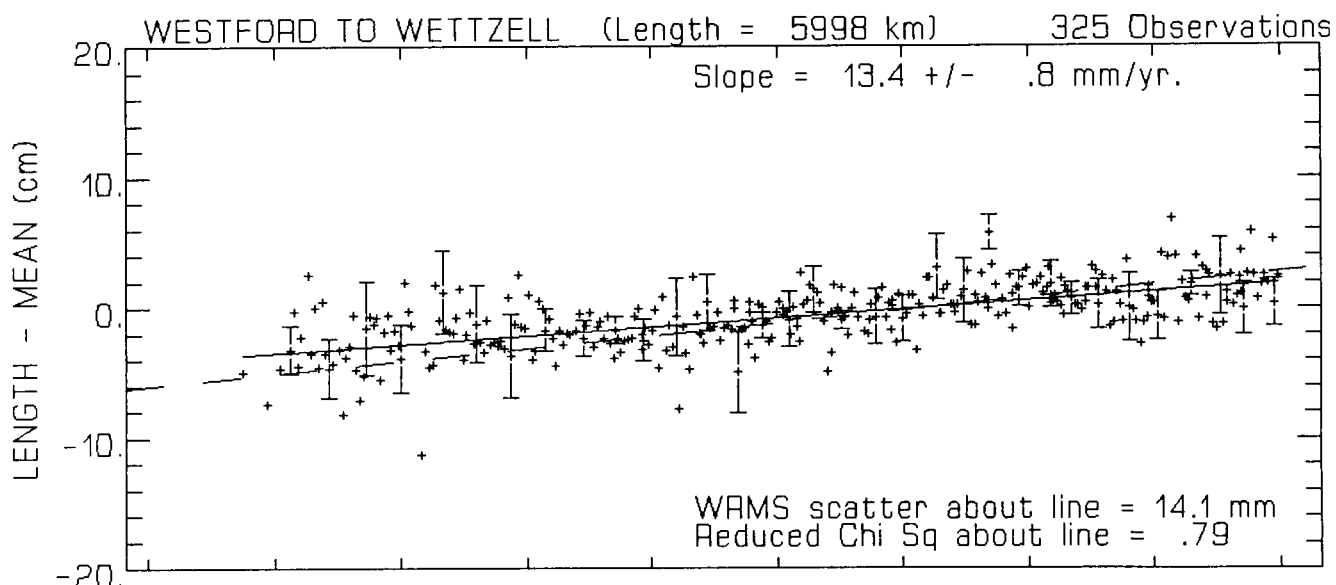


TABLE 7.1
VLBI BASELINE EVOLUTION
ALGOPARK TO GILCREEK

DATE	LENGTH		TRANSVERSE		VERTICAL	
	(mm)	FORMAL ERR	(mm)	FORMAL ERR	(mm)	FORMAL ERR
84 8 24	4475699318.9	5.4	15.5	16.4	-30.8	22.8
84 8 28	4475699348.3	9.5	-18.7	16.8	-9.5	32.7
85 8 24	4475699322.1	7.5	40.2	17.3	78.8	28.0
85 9 4	4475699349.3	9.7	2.3	12.9	52.1	29.0

TABLE 7.2
VLBI BASELINE EVOLUTION
ALGOPARK TO HRAS 085

DATE	LENGTH		TRANSVERSE		VERTICAL	
	(mm)	FORMAL ERR	(mm)	FORMAL ERR	(mm)	FORMAL ERR
84 8 24	2787141046.6	4.0	-28.3	9.8	26.6	20.4
84 8 28	2787141053.9	10.5	-32.8	10.6	88.0	43.7
85 8 24	2787141056.6	8.6	-22.5	10.9	54.7	36.0
85 8 28	2787141040.6	13.0	-35.2	11.7	149.0	47.7
85 9 4	2787141046.0	9.9	-21.9	8.7	127.8	40.6

TABLE 7.3
VLBI BASELINE EVOLUTION
ALGOPARK TO MOJAVE12

DATE	LENGTH		TRANSVERSE		VERTICAL	
	(mm)	FORMAL ERR	(mm)	FORMAL ERR	(mm)	FORMAL ERR
85 8 24	3407219005.1	7.4	-2.0	13.3	125.7	30.3

TABLE 7.4
VLBI BASELINE EVOLUTION
ALGOPARK TO PENTICTN

DATE	LENGTH		TRANSVERSE		VERTICAL	
	(mm)	FORMAL ERR	(mm)	FORMAL ERR	(mm)	FORMAL ERR
84 8 24	3074234536.3	22.1	-519.6	13.0	3364.6	83.2
85 8 28	3074234648.1	29.1	-525.5	16.0	3169.0	108.3
85 9 4	3074234590.2	15.2	-521.9	10.1	3375.6	58.6

TABLE 7.5
VLBI BASELINE EVOLUTION
ALGOPARK TO WESTFORD

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	
84 8 28	642611325.7	5.2	8.7 5.9	-28.1	25.4
85 8 24	642611327.7	3.6	10.9 4.5	-44.7	18.4

TABLE 7.6
VLBI BASELINE EVOLUTION
ALGOPARK TO YELLOWKN

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	
84 8 24	2912295986.7	8.8	-649.2 10.9	4430.2	36.3
85 9 4	2912296020.8	11.2	-652.0 8.8	4437.1	43.1

TABLE 7.7
VLBI BASELINE EVOLUTION
BLKBUTTE TO HATCREEK

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	
87 2 3	942475308.2	8.2	50.8 5.8	-2651.5	42.9
87 5 17	942475297.7	7.8	71.0 5.7	-2671.5	40.2
87 10 21	942475277.3	9.8	57.6 6.3	-2798.9	49.3

TABLE 7.8
VLBI BASELINE EVOLUTION
BLKBUTTE TO HRAS 085

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	
83 11 8	1158018079.5	20.2	12.6 22.5	-2937.4	151.5
86 5 18	1158018141.5	4.3	-28.0 8.4	-2641.2	29.6
86 10 26	1158018131.0	3.7	-15.1 4.7	-2678.1	24.1

TABLE 7.9
VLBI BASELINE EVOLUTION
BLKBUTTE TO MON PEAK

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
83 11 8	107821854.7	12.5	3211.0	21.7	1445.0 158.1
85 1 12	107821821.6	17.4	3239.7	13.6	1931.2 127.7
86 5 18	107821853.4	4.3	3265.8	3.6	1740.8 33.3
86 10 26	107821838.8	3.9	3284.2	3.5	1671.4 30.9

TABLE 7.10
VLBI BASELINE EVOLUTION
BLKBUTTE TO OCOTILLO

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
84 3 3	97160188.6	24.6	-98.2	15.8	530.2 149.1
85 1 15	97160219.9	9.0	-105.4	6.1	535.9 75.6

TABLE 7.11
VLBI BASELINE EVOLUTION
BLKBUTTE TO OVRO 130

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
86 5 18	459067506.6	3.8	42.4	4.8	-2678.9 28.0
86 10 26	459067524.3	3.2	71.6	2.8	-2702.7 23.6
87 10 21	459067502.9	6.9	70.6	4.9	-2778.6 48.9

TABLE 7.12
VLBI BASELINE EVOLUTION
BLKBUTTE TO PRESIDIO

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
87 5 17	762366287.8	7.4	84.5	6.5	213.3 42.3
87 10 21	762366274.7	9.1	70.5	7.7	36.5 54.2

TABLE 7.13
VLBI BASELINE EVOLUTION
BLKBUTTE TO PT REYES

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	
87 2 3	815918030.2	8.1	-1621.8 6.2	1863.1	46.3

TABLE 7.14
VLBI BASELINE EVOLUTION
CHLBOLTN TO HAYSTACK

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	
80 10 16	5072314437.1	8.2	126.5 4.1	-119.4	23.4
80 10 17	5072314441.4	13.7	99.1 255.7	-42.5	258.6
80 10 18	5072314472.3	17.9	78.9 223.7	-158.2	232.2
80 10 19	5072314436.4	10.8	44.3 223.6	-157.8	225.6
80 10 20	5072314444.8	14.1	-26.8 255.7	-128.0	258.3
80 10 21	5072314372.1	16.3	-54.7 310.0	-351.1	313.2
80 10 22	5072314433.1	10.2	-58.9 255.6	-142.4	257.0

TABLE 7.15
VLBI BASELINE EVOLUTION
CHLBOLTN TO HRAS 085

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	
80 10 16	7663737266.3	20.1	228.4 5.5	-24.9	31.3
80 10 17	7663737343.7	36.3	168.6 386.2	-27.0	389.7
80 10 18	7663737390.3	44.9	139.2 337.9	-193.4	345.3
80 10 19	7663737302.0	32.9	80.0 337.8	-120.6	340.8
80 10 20	7663737341.0	32.4	-10.1 386.2	-154.2	389.0
80 10 21	7663737202.4	39.8	-48.1 468.4	-324.7	471.8
80 10 22	7663737340.2	27.2	-72.5 386.2	-163.7	387.8

TABLE 7.16
VLBI BASELINE EVOLUTION
CHLBOLTN TO ONSALA60

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR
80 10 16	1109864315.6	3.7	18.9 2.4	18.1	15.5
80 10 17	1109864322.5	8.4	20.5 56.4	47.0	66.3
80 10 18	1109864303.6	23.5	46.6 57.5	93.6	89.5
80 10 19	1109864313.4	6.0	-6.9 49.2	106.9	54.9
80 10 20	1109864319.9	8.6	-.8 56.5	141.5	66.8
80 10 21	1109864312.0	11.1	-26.6 68.6	-125.6	82.3
80 10 22	1109864319.4	5.6	-33.1 56.1	90.4	61.1

TABLE 7.17
VLBI BASELINE EVOLUTION
CHLBOLTN TO OVRO 130

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR
80 10 16	7846991185.0	16.6	229.9 5.2	-153.2	25.9
80 10 17	7846991241.6	27.2	169.0 395.6	-96.6	397.1
80 10 18	7846991239.6	34.8	112.9 346.1	-183.3	350.1
80 10 19	7846991337.3	67.5	34.1 346.4	-384.5	358.1
80 10 20	7846991235.3	26.7	-45.4 395.6	-211.1	396.9
80 10 21	7846991119.5	29.4	-75.1 479.7	-403.2	481.1
80 10 22	7846991207.2	21.3	-92.5 395.6	-173.6	396.1

TABLE 7.18
VLBI BASELINE EVOLUTION
DEADMANL TO MOJAVE12

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR
84 2 29	131806804.4	22.9	-1437.6 22.1	-4444.2	178.9
85 1 9	131806778.9	18.5	-1391.6 15.3	-4516.4	119.2
87 3 28	131806773.0	6.4	-1409.7 4.3	-4264.8	31.2
87 12 11	131806797.4	4.6	-1407.1 3.6	-4203.6	25.8

TABLE 7.19
VLBI BASELINE EVOLUTION
DEADMANL TO SANPAULA

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR
84 2 29	250758734.7	24.7	1244.4 31.3	-1632.0	210.3
85 1 9	250758728.5	13.1	1199.7 21.0	-1675.6	127.0
87 3 28	250758801.7	5.6	1240.5 8.1	-1337.4	46.3
87 12 11	250758839.6	5.3	1251.2 6.8	-1360.8	42.5

TABLE 7.20
VLBI BASELINE EVOLUTION
DEADMANL TO VNDNBERG

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR
84 2 29	400134220.8	27.0	1173.5 30.0	1979.8	195.4
85 1 9	400134112.6	13.2	1175.7 20.3	2000.0	120.7
87 3 28	400134198.5	6.0	1224.9 6.6	2283.6	32.5
87 12 11	400134233.7	6.2	1257.0 7.9	2373.2	34.1

TABLE 7.21
VLBI BASELINE EVOLUTION
DSS15 TO GOLDFVENU

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR
87 11 1	21069151.6	2.1	7.7 1.7	43.5	9.7

TABLE 7.22
VLBI BASELINE EVOLUTION
DSS15 TO MOJ 7288

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR
87 11 1	10063343.2	2.4	11.3 1.4	36.3	12.5

TABLE 7.23
VLBI BASELINE EVOLUTION
DSS15 TO MOJAVE12

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
87 11 1	10011685.2	2.0	36.7 1.2	113.8	8.6

TABLE 7.24
VLBI BASELINE EVOLUTION
DSS15 TO OVR 7853

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
87 11 1	237345165.7	2.0	.1 2.1	2.5	9.5

TABLE 7.25
VLBI BASELINE EVOLUTION
DSS15 TO OVRO 130

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
87 11 1	236711197.0	1.8	-13.4 1.9	39.7	9.0

TABLE 7.26
VLBI BASELINE EVOLUTION
EFLSBERG TO HAYSTACK

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
79 11 25	5591903487.9	31.1	-764.8 282.4	-339.9	296.9
80 7 26	5591903605.1	46.1	745.0 246.4	112.5	264.6
80 7 27	5591903447.1	79.5	778.5 281.9	316.8	328.0
80 9 26	5591903486.7	18.1	883.3 341.8	129.9	344.2
80 9 27	5591903529.4	17.7	901.0 281.9	155.7	285.6
80 9 28	5591903532.5	11.5	911.4 246.5	278.3	247.3
83 5 5	5591903588.0	17.7	-195.4 128.4	64.1	144.6
83 5 5	5591903600.8		-223.1 128.5	29.3	147.5 *

* WESTFORD - EFLSBERG results mapped to HAYSTACK - EFLSBERG

TABLE 7.27
VLBI BASELINE EVOLUTION
EFLSBERG TO HRAS 085

DATE	LENGTH		FORMAL ERR	TRANSVERSE		VERTICAL	FORMAL ERR
	(mm)			(mm)	FORMAL ERR	(mm)	FORMAL ERR
80 7 26	8084184763.5		27.3	1102.8	356.3	461.8	358.0
80 7 27	8084184764.4		42.2	1134.5	407.5	329.4	412.1
80 9 26	8084184689.4		67.2	1359.5	494.1	240.2	501.1
80 9 27	8084184811.1		49.2	1393.3	407.5	233.8	412.1
80 9 28	8084184772.2		33.4	1388.3	356.3	358.3	358.7
83 5 5	8084184873.3		24.6	-189.3	140.0	74.3	194.5

TABLE 7.28
VLBI BASELINE EVOLUTION
EFLSBERG TO NRAO 140

DATE	LENGTH		FORMAL ERR	TRANSVERSE		VERTICAL	FORMAL ERR
	(mm)			(mm)	FORMAL ERR	(mm)	FORMAL ERR
79 11 25	6334648427.2		36.7	-861.4	319.8	-429.2	334.4

TABLE 7.29
VLBI BASELINE EVOLUTION
EFLSBERG TO ONSALA60

DATE	LENGTH		FORMAL ERR	TRANSVERSE		VERTICAL	FORMAL ERR
	(mm)			(mm)	FORMAL ERR	(mm)	FORMAL ERR
80 7 26	832210502.2		4.7	108.8	39.1	54.9	42.2
80 7 27	832210488.3		9.2	83.2	52.6	5.4	60.6
80 9 26	832210499.1		5.5	111.4	51.2	-17.2	58.7
80 9 27	832210512.0		5.5	112.6	42.3	-.6	49.2
80 9 28	832210499.4		3.8	99.1	37.0	-14.9	42.2
83 5 5	832210507.0		6.9	-59.9	25.9	48.5	40.8

TABLE 7.30
VLBI BASELINE EVOLUTION
EFLSBERG TO OVRO 130

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
79 11 25	8203742443.8	41.2	-1132.9 415.0	-346.7	424.4
80 7 26	8203742473.2	16.9	1164.3 361.7	211.7	362.4
80 7 27	8203742409.1	26.6	1189.3 413.7	156.8	416.0
80 9 26	8203742354.2	38.2	1394.7 501.6	-6.7	503.8
80 9 27	8203742459.9	30.8	1442.2 413.7	-16.0	415.5
80 9 28	8203742450.8	17.6	1447.2 361.7	78.8	362.1

TABLE 7.31
VLBI BASELINE EVOLUTION
EFLSBERG TO ROBLED32

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
83 5 5	1414092457.2	11.9	-44.8 44.1	-53.2	79.1

TABLE 7.32
VLBI BASELINE EVOLUTION
EFLSBERG TO WESTFORD

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
83 5 5	5592851126.3	23.3	-223.1 128.5	29.3	147.5

TABLE 7.33
VLBI BASELINE EVOLUTION
ELY TO HATCREEK

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
85 5 6	590025822.7	4.3	-8.9 5.3	153.5	35.8
86 4 2	590025830.9	4.1	10.6 5.0	53.2	28.8
87 5 10	590025848.8	6.3	-6.9 8.7	60.1	46.9

TABLE 7.34
VLBI BASELINE EVOLUTION
ELY TO HRAS 085

DATE	LENGTH		FORMAL ERR	TRANSVERSE		VERTICAL	FORMAL ERR
	(mm)			(mm)	FORMAL ERR	(mm)	
84 4 22	1378547080.2		12.0	18.9	7.4	-94.4	63.3
85 5 6	1378547091.5		6.2	14.9	6.7	120.6	39.1
86 4 2	1378547078.4		4.9	8.6	5.8	58.0	30.3
87 5 10	1378547088.1		7.0	-5.2	7.1	106.6	35.6

TABLE 7.35
VLBI BASELINE EVOLUTION
ELY TO MOJAVE12

DATE	LENGTH		FORMAL ERR	TRANSVERSE		VERTICAL	FORMAL ERR
	(mm)			(mm)	FORMAL ERR	(mm)	
84 4 22	475517277.5		6.8	21.8	6.5	-84.6	51.0
85 5 6	475517260.9		4.5	30.2	3.9	149.4	36.7
86 4 2	475517247.0		4.7	36.3	3.7	86.9	29.4
87 5 10	475517243.8		6.2	31.7	4.3	89.0	31.4

TABLE 7.36
VLBI BASELINE EVOLUTION
ELY TO OVRO 130

DATE	LENGTH		FORMAL ERR	TRANSVERSE		VERTICAL	FORMAL ERR
	(mm)			(mm)	FORMAL ERR	(mm)	
86 4 2	378140555.1		3.8	33.7	4.1	16.5	27.8

TABLE 7.37
VLBI BASELINE EVOLUTION
ELY TO PLATTVIL

DATE	LENGTH		FORMAL ERR	TRANSVERSE		VERTICAL	FORMAL ERR
	(mm)			(mm)	FORMAL ERR	(mm)	
84 4 22	871865358.9		12.3	-237.0	15.2	3932.7	102.3
85 5 6	871865383.3		5.9	-236.6	7.9	4010.5	47.2
86 4 2	871865368.3		12.1	-253.7	15.4	4160.4	82.6

TABLE 7.38
VLBI BASELINE EVOLUTION
ELY TO VNDNBERG

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR
87 5 10	734889066.4	8.6	253.4 7.6	6711.2	43.9

TABLE 7.39
VLBI BASELINE EVOLUTION
ELY TO YUMA

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR
87 5 10	707152525.1	8.1	14.8 5.5	2833.1	45.8

TABLE 7.40
VLBI BASELINE EVOLUTION
FLAGSTAF TO HATCREEK

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR
84 4 17	1062209349.4	18.6	26.3 10.2	-4030.0	141.7
85 5 2	1062209370.3	5.2	16.9 4.9	-3981.4	32.1
86 3 26	1062209377.8	5.6	24.0 6.0	-3886.2	32.0
87 5 6	1062209383.9	5.7	28.1 6.5	-3851.6	37.7

TABLE 7.41
VLBI BASELINE EVOLUTION
FLAGSTAF TO HRAS 085

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR
84 4 17	879283099.2	15.5	-23.1 10.3	-4060.6	146.6
85 5 2	879283098.5	4.8	-42.7 4.6	-3956.2	34.4
86 3 26	879283097.5	4.4	-54.0 5.3	-3874.9	32.3
87 5 6	879283100.1	4.6	-25.3 5.7	-3865.5	31.2

TABLE 7.42
VLBI BASELINE EVOLUTION
FLAGSTAF TO MOJAVE12

			LENGTH		TRANSVERSE		VERTICAL	
DATE			(mm)	FORMAL ERR	(mm)	FORMAL ERR	(mm)	FORMAL ERR
84	4	17	478050173.3	12.3	34.4	12.3	-4037.9	141.5
85	5	2	478050177.6	3.4	41.8	4.6	-3959.0	32.6
86	3	26	478050181.4	3.5	48.9	4.9	-3898.8	31.5
87	5	6	478050187.5	3.2	48.6	5.2	-3846.1	28.6

TABLE 7.43
VLBI BASELINE EVOLUTION
FLAGSTAF TO PLATTVIL

			LENGTH		TRANSVERSE		VERTICAL	
DATE			(mm)	FORMAL ERR	(mm)	FORMAL ERR	(mm)	FORMAL ERR
84	4	17	820904439.1	14.5	-1837.2	15.1	-10.4	153.1
85	5	2	820904433.5	5.8	-1853.3	5.6	25.6	40.2
86	3	26	820904443.6	5.6	-1855.0	5.8	110.8	40.7

TABLE 7.44
VLBI BASELINE EVOLUTION
FLAGSTAF TO VERNAL

DATE			LENGTH	FORMAL ERR	TRANSVERSE		VERTICAL	
			(mm)		(mm)	FORMAL ERR	(mm)	FORMAL ERR
87	5	6	595755607.4	6.1	.8	4.4	-4015.7	33.4

TABLE 7.45
VLBI BASELINE EVOLUTION
FORT ORD TO HRAS 085

			LENGTH		TRANSVERSE		VERTICAL	
DATE			(mm)	FORMAL ERR	(mm)	FORMAL ERR	(mm)	FORMAL ERR
85	3	10	1774675620.3	8.0	-2117.7	56.6	-4253.1	75.0
85	10	23	1774675654.8	9.6	-2145.3	9.4	-4169.3	53.3
87	2	9	1774675676.3	8.1	-2124.3	8.4	-4371.0	39.4
87	10	18	1774675714.9	8.2	-2102.2	8.6	-4254.3	39.1

TABLE 7.46
VLBI BASELINE EVOLUTION
FORT ORD TO JPL MV1

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	
87 10 18	426048766.8	5.2	-3691.8 5.7	-4668.6	36.3

TABLE 7.47
VLBI BASELINE EVOLUTION
FORT ORD TO MON PEAK

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	
87 2 9	644206243.2	6.0	-6410.5 4.9	-118.3	40.3

TABLE 7.48
VLBI BASELINE EVOLUTION
FORT ORD TO PRESIDIO

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	
83 8 25	139787411.3	10.0	518.8 6.8	-1566.2	66.1
85 3 10	139787442.3	12.9	539.7 12.9	-1339.7	115.3
85 10 23	139787408.1	6.4	508.7 5.3	-1671.3	55.6

TABLE 7.49
VLBI BASELINE EVOLUTION
FORT ORD TO PT REYES

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	
87 5 21	189551465.6	7.4	-1426.8 6.2	-165.9	49.9

TABLE 7.50
VLBI BASELINE EVOLUTION
GILCREEK TO PENTICTN

DATE			LENGTH	FORMAL ERR	TRANSVERSE		VERTICAL	
			(mm)		(mm)	FORMAL ERR	(mm)	FORMAL ERR
84	8	24	2374175661.8	18.7	631.3	10.8	3381.4	83.0
85	9	4	2374175664.5	13.2	635.0	8.5	3303.1	54.0

TABLE 7.51
VLBI BASELINE EVOLUTION
GILCREEK TO PLATTVIL

			LENGTH		TRANSVERSE		VERTICAL	
DATE			(mm)	FORMAL ERR	(mm)	FORMAL ERR	(mm)	FORMAL ERR
85	5	7	3810424308.7	14.1	2307.4	12.3	3666.0	43.3
86	4	1	3810424326.2	9.9	2357.6	15.2	3569.5	34.3
87	5	1	3810424319.4	9.8	2286.5	15.2	3499.2	27.0
87	5	2	3810424337.5	9.7	2292.5	12.3	3520.6	25.8

TABLE 7.52
VLBI BASELINE EVOLUTION
GILCREEK TO RICHMOND

			LENGTH		TRANSVERSE		VERTICAL	
DATE			(mm)	FORMAL ERR	(mm)	FORMAL ERR	(mm)	FORMAL ERR
87	4	29	6117758509.2	24.1	-69.5	19.8	66.8	55.2
87	5	29	6117758495.7	21.2	-50.9	20.2	94.1	50.4
87	6	28	6117758499.9	26.4	-68.0	22.2	225.0	69.9
87	8	27	6117758461.8	29.6	-75.9	21.7	137.1	75.5
87	10	21	6117758507.2	23.7	-98.7	20.2	-39.4	54.5
87	11	30	6117758538.4	17.5	-62.6	19.7	10.3	43.6

TABLE 7.53
VLBI BASELINE EVOLUTION
GILCREEK TO SESHAN25

DATE			LENGTH	FORMAL ERR	TRANSVERSE		VERTICAL	
			(mm)		(mm)	FORMAL ERR	(mm)	FORMAL ERR
87	6	9	6635555749.4	47.2	-154.8	47.2	548.7	109.2

TABLE 7.54
VLBI BASELINE EVOLUTION
GILCREEK TO SHANGHAI

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR
86 6 13	6619027299.3	82.7	308.5	57.9	565.7 178.9

TABLE 7.55
VLBI BASELINE EVOLUTION
GILCREEK TO SNDPOINT

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR
84 7 14	1284477775.9	22.2	102.8	28.2	3071.1 175.9
85 7 25	1284477819.9	10.0	154.8	7.1	3040.7 49.0
86 7 31	1284477804.6	7.9	134.7	5.8	3111.7 46.0
87 7 25	1284478048.7	168.1	166.7	42.9	1317.5 1622.

TABLE 7.56
VLBI BASELINE EVOLUTION
GILCREEK TO WHTHORSE

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR
84 8 7	788869900.7	17.6	45.9	12.9	2877.9 118.1
86 8 18	788869895.6	4.8	28.5	4.9	2705.5 34.4
86 8 20	788869892.7	5.5	29.6	4.2	2616.7 39.6

TABLE 7.57
VLBI BASELINE EVOLUTION
GILCREEK TO YELLOWKN

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR
84 8 24	1631193640.9	5.6	667.7	7.4	4518.5 34.5
85 9 4	1631193654.7	6.7	657.1	7.0	4439.4 38.9

TABLE 7.58
VLBI BASELINE EVOLUTION
GOLDVENU TO HRAS 085

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
82 6 21	1302373945.7	9.4	-18.5 36.2	57.5	77.5
82 10 23	1302373946.9	5.5	-15.2 16.5	31.9	44.5

TABLE 7.59
VLBI BASELINE EVOLUTION
GOLDVENU TO MOJ 7288

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
87 11 1	12776768.3	1.6	-10.5 1.6	-7.1	11.7

TABLE 7.60
VLBI BASELINE EVOLUTION
GOLDVENU TO MOJAVE12

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
83 8 27	12567243.9	9.0	.1 6.5	30.9	71.0
84 1 7	12567222.1	1.4	-1.4 2.2	68.5	7.5
84 1 14	12567232.4	4.4	-18.2 15.2	27.7	33.3
87 11 1	12567225.7	1.4	-2.1 1.3	69.7	7.7

TABLE 7.61
VLBI BASELINE EVOLUTION
GOLDVENU TO ONSALA60

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
82 6 16	8024928092.4	30.5	-370.9 299.3	376.2	311.7
82 6 21	8024928028.8	38.3	-132.6 277.8	359.7	269.4

TABLE 7.62
VLBI BASELINE EVOLUTION
GOLDVENU TO OVR 7853

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
87 11 1	258212541.5	2.1	1.2	1.8	-40.3 9.2

TABLE 7.63
VLBI BASELINE EVOLUTION
GOLDVENU TO PRESIDIO

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
83 8 27	580657651.9	14.4	35.6	15.4	2725.9 84.6

TABLE 7.64
VLBI BASELINE EVOLUTION
GOLDVENU TO PT REYES

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
83 8 27	633483769.6	11.9	-1439.3	14.6	4634.4 70.8

TABLE 7.65
VLBI BASELINE EVOLUTION
GOLDVENU TO QUINCY

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
82 10 23	639556783.1	6.3	557.5	9.9	4228.4 49.0

TABLE 7.66
VLBI BASELINE EVOLUTION
GOLDVENU TO VNDNBERG

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
83 8 27	357563259.4	8.6	135.8 11.1	6718.0	69.8

TABLE 7.67
VLBI BASELINE EVOLUTION
GOLDVENU TO WESTFORD

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
82 6 16	3900445508.9	14.2	-159.1 121.3	165.5	186.6
82 6 21	3900445478.4	18.4	-48.7 107.6	49.4	171.4

TABLE 7.68
VLBI BASELINE EVOLUTION
HARTRAO TO HRAS 085

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
87 2 18	11878469167.5	47.7	-93.1 40.5	-71.8	70.6

TABLE 7.69
VLBI BASELINE EVOLUTION
HARTRAO TO MEDICINA

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
87 12 18	7453222491.4	23.4	142.0 107.2	119.3	66.1

TABLE 7.70
VLBI BASELINE EVOLUTION
HARTRAO TO ONSALA60

DATE	LENGTH		FORMAL ERR	TRANSVERSE		VERTICAL	FORMAL ERR
	(mm)			(mm)	FORMAL ERR	(mm)	FORMAL ERR
86 1 15	8525165575.0		46.8	47.8	37.0	183.9	73.4
86 2 11	8525165611.9		53.4	18.5	32.4	-34.8	76.4
87 1 19	8525165611.3		45.3	72.9	31.1	208.2	61.5
87 2 4	8525165540.9		34.1	55.8	34.5	127.0	57.0

TABLE 7.71
VLBI BASELINE EVOLUTION
HARTRAO TO RICHMOND

DATE	LENGTH		FORMAL ERR	TRANSVERSE		VERTICAL	FORMAL ERR
	(mm)			(mm)	FORMAL ERR	(mm)	FORMAL ERR
86 1 9	10814591148.2		67.2	-163.8	39.1	-78.8	65.8
86 1 15	10814591242.3		64.4	-147.9	46.8	118.4	65.5
86 1 19	10814591159.6		57.0	-63.5	36.6	-115.5	60.2
86 1 29	10814591202.0		39.5	-203.7	37.0	-41.6	50.4
86 2 3	10814591183.9		51.7	-156.9	37.3	65.0	58.0
86 2 11	10814591063.9		76.4	-172.2	44.5	71.8	68.8
87 1 29	10814591263.6		46.7	-106.7	37.8	14.1	59.9
87 2 4	10814591241.9		56.6	-98.7	44.9	18.1	62.1
87 2 8	10814591248.2		50.3	-127.3	38.6	14.7	58.2
87 2 18	10814591180.2		53.7	-86.8	37.7	-64.9	69.1
87 2 23	10814591295.0		43.2	-168.7	37.3	-43.7	56.7
87 12 18	10814591276.6		41.5	21.8	110.2	11.4	130.4
87 12 21	10814591425.9		58.0	-27.8	88.1	-139.5	116.3

TABLE 7.72
VLBI BASELINE EVOLUTION
HARTRAO TO WESTFORD

DATE			LENGTH (mm)	FORMAL ERR	TRANSVERSE (mm) FORMAL ERR		VERTICAL (mm) FORMAL ERR	
86	1	9	10658658303.1	56.7	-153.9	36.1	-31.9	63.0
86	1	15	10658658397.9	60.9	-97.5	43.8	148.2	67.0
86	1	19	10658658311.2	52.5	-86.5	34.4	-92.2	58.7
86	1	29	10658658327.7	34.2	-170.8	34.0	46.1	49.9
86	2	3	10658658396.2	43.5	-107.2	34.9	53.9	55.0
86	2	11	10658658267.3	69.1	-125.1	40.1	78.0	70.3
87	1	19	10658658383.0	81.1	-90.8	34.9	182.5	101.7
87	1	29	10658658439.2	44.0	-92.3	34.9	63.7	60.5
87	2	4	10658658371.3	50.4	-67.6	42.4	66.5	62.5
87	2	8	10658658439.8	46.5	-124.9	35.7	42.6	59.4
87	2	18	10658658415.0	150.5	-80.2	42.5	-68.4	109.3
87	2	23	10658658437.5	38.9	-167.9	35.0	29.5	56.9
87	12	18	10658658487.5	37.8	23.8	130.5	5.1	114.1
87	12	21	10658658543.9	48.9	-73.1	102.9	-47.6	103.5

TABLE 7.73
VLBI BASELINE EVOLUTION
HARTRAO TO WETTZEIL

DATE			LENGTH (mm)	FORMAL ERR	TRANSVERSE (mm) FORMAL ERR		VERTICAL (mm) FORMAL ERR	
86	1	9	7832322495.3	40.1	-27.5	27.3	-17.7	57.9
86	1	19	7832322524.8	30.2	-18.9	27.2	-62.6	51.3
86	1	29	7832322526.3	24.2	3.1	25.9	80.7	41.8
86	2	3	7832322547.2	27.7	13.4	27.0	35.6	49.2
87	1	29	7832322569.3	26.4	96.1	26.6	128.0	50.6
87	2	8	7832322565.8	30.1	29.4	27.1	124.0	56.6
87	2	18	7832322533.9	18.8	.6	26.3	21.4	38.9
87	2	23	7832322544.7	23.4	-7.4	26.6	122.4	45.7
87	12	21	7832322570.3	26.6	97.4	89.1	150.8	57.0

TABLE 7.74
VLBI BASELINE EVOLUTION
HATCREEK TO JPL MV1

DATE			LENGTH (mm)	FORMAL ERR	TRANSVERSE (mm) FORMAL ERR		VERTICAL (mm) FORMAL ERR	
83	6	29	789070041.8	6.2	-1958.2	6.3	-286.5	41.9
87	10	18	789069956.0	7.2	-1904.7	5.8	-319.3	47.6

TABLE 7.75
VLBI BASELINE EVOLUTION
HATCREEK TO KODIAK

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
87 7 15	2870190253.3	12.9	-530.0 13.4	3097.2	49.6
87 7 17	2870190267.9	9.9	-526.3 9.7	3171.5	38.4

TABLE 7.76
VLBI BASELINE EVOLUTION
HATCREEK TO MAMMOTHL

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
83 6 29	414535903.0	11.8	96.8 8.6	3017.5	71.2

TABLE 7.77
VLBI BASELINE EVOLUTION
HATCREEK TO QUINCY

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
83 6 27	103712246.8	9.8	-1031.4 6.6	4232.4	67.8
84 4 12	103712248.8	6.7	-1032.9 5.1	4475.0	71.6
85 5 12	103712240.5	4.6	-1032.2 4.2	4407.4	37.1
86 10 19	103712245.0	5.5	-1039.2 5.0	4364.7	44.2

TABLE 7.78
VLBI BASELINE EVOLUTION
HATCREEK TO SNDPOINT

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
87 7 25	3229865017.2	410.7	-202.1 72.2	1220.5	1578.

TABLE 7.79
VLBI BASELINE EVOLUTION
HATCREEK TO VERNAL

DATE	LENGTH (mm)	FORMAL ERR	TRANSVERSE		FORMAL ERR	VERTICAL	
			(mm)			(mm)	FORMAL ERR
86 3 30	1007489427.6	5.5	48.3		6.8	-65.5	37.6
87 5 6	1007489450.9	4.6	27.9		6.5	-152.9	31.8

TABLE 7.80
VLBI BASELINE EVOLUTION
HATCREEK TO YAKATAGA

DATE	LENGTH (mm)	FORMAL ERR	TRANSVERSE		FORMAL ERR	VERTICAL	
			(mm)			(mm)	FORMAL ERR
87 8 7	2569202471.1	11.2	-248.8		11.8	3121.8	43.4
87 8 13	2569202482.4	10.2	-262.5		10.4	3141.9	43.1
87 8 14	2569202467.7	8.3	-252.5		10.4	3139.2	37.0

TABLE 7.81
VLBI BASELINE EVOLUTION
HAYSTACK TO MARPOINT

DATE	LENGTH (mm)	FORMAL ERR	TRANSVERSE		FORMAL ERR	VERTICAL	
			(mm)			(mm)	FORMAL ERR
82 6 18	677293407.8	5.2	-19.9		32.3	-112.3	45.3
82 6 18	677293410.3	5.6	-28.1		32.2	-118.5	45.5 *
82 6 19	677293405.0	7.9	-20.3		26.7	-119.2	49.1
82 6 19	677293391.4	9.1	-28.0		26.8	-141.7	52.0 *
82 10 18	677293406.3	7.2	-22.1		10.6	-35.5	42.0 *
83 8 29	677293387.2	23.4	-21.2		19.6	-26.3	104.8 *

* WESTFORD - MARPOINT results mapped to HAYSTACK - MARPOINT

TABLE 7.82
VLBI BASELINE EVOLUTION
HAYSTACK TO ROBLED32

DATE	LENGTH		FORMAL ERR	TRANSVERSE		VERTICAL	FORMAL ERR
	(mm)			(mm)	FORMAL ERR	(mm)	FORMAL ERR
83 5 5	5299699274.3		35.6	-211.7	126.3	-67.7	132.6
83 5 5	5299699279.1		38.8	-234.5	126.4	-29.8	135.7 *

* WESTFORD - ROBLED32 results mapped to HAYSTACK - ROBLED32

TABLE 7.83
VLBI BASELINE EVOLUTION
HRAS 085 TO JPL MV1

DATE	LENGTH		FORMAL ERR	TRANSVERSE		VERTICAL	FORMAL ERR
	(mm)			(mm)	FORMAL ERR	(mm)	FORMAL ERR
82 10 16	1391413550.2		16.2	1863.6	25.8	-299.5	106.3
83 6 29	1391413610.3		7.4	1930.3	9.2	-447.9	45.7
87 10 18	1391413721.3		7.4	1934.7	7.4	-375.9	41.1

TABLE 7.84
VLBI BASELINE EVOLUTION
HRAS 085 TO KASHIMA

DATE	LENGTH		FORMAL ERR	TRANSVERSE		VERTICAL	FORMAL ERR
	(mm)			(mm)	FORMAL ERR	(mm)	FORMAL ERR
87 4 29	9027663348.5		43.1	66.2	31.7	125.1	61.9
87 5 29	9027663276.6		41.3	73.5	30.8	-51.1	57.3
87 6 28	9027663230.7		53.4	129.2	32.2	53.4	68.6
87 8 27	9027663300.0		55.1	109.5	33.0	-3.2	75.1
87 10 21	9027663311.5		34.1	80.9	31.6	-36.1	50.7
87 11 30	9027663406.2		26.4	62.1	30.8	-34.8	43.7

TABLE 7.85
VLBI BASELINE EVOLUTION
HRAS 085 TO MAMMOTHL

DATE	LENGTH		FORMAL ERR	TRANSVERSE		VERTICAL	FORMAL ERR
	(mm)			(mm)	FORMAL ERR	(mm)	FORMAL ERR
83 6 29	1580143782.8		13.7	-186.7	13.3	2863.0	74.6

TABLE 7.86
VLBI BASELINE EVOLUTION
HRAS 085 TO MARPOINT

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
82 10 18	2570813378.5	10.9	7.9 27.0	-190.3	65.7
83 8 29	2570813372.7	21.2	-3.8 29.5	-160.6	105.0

TABLE 7.87
VLBI BASELINE EVOLUTION
HRAS 085 TO MEDICINA

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
87 4 3	8604525510.5	148.0	-128.9 13.1	-181.7	167.4
87 5 3	8604525397.7	36.4	-98.0 9.8	-183.6	49.6
87 12 9	8604525484.8	16.5	-127.6 6.6	-111.9	28.4

TABLE 7.88
VLBI BASELINE EVOLUTION
HRAS 085 TO PENTICTN

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
84 8 24	2443354496.9	16.4	-646.9 10.6	3219.7	84.4
85 8 28	2443354551.0	24.0	-685.0 13.1	2890.6	113.9
85 9 4	2443354502.4	13.6	-673.3 8.4	3125.2	63.6

TABLE 7.89
VLBI BASELINE EVOLUTION
HRAS 085 TO PINFLATS

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
85 11 2	1223294520.8	7.8	2999.2 7.7	6916.1	46.7
86 2 26	1223294534.9	8.9	3013.7 8.9	6735.8	66.1
86 4 10	1223294536.9	7.1	3001.9 7.8	6882.6	49.7
86 11 1	1223294544.1	4.3	3009.6 6.2	6862.4	31.0
86 12 13	1223294551.2	4.3	3018.9 4.9	6793.5	26.4

TABLE 7.90
VLBI BASELINE EVOLUTION
HRAS 085 TO PRESIDIO

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
85 3 10	1870585742.0	23.2	111.9 60.8	3135.9	129.7
85 3 13	1870585787.0	15.4	47.8 17.3	2885.6	74.5
85 10 19	1870585811.7	7.1	34.5 7.3	2829.4	37.3
85 10 23	1870585817.8	8.5	33.9 8.9	2723.6	47.4
87 2 6	1870585842.6	7.1	51.3 7.2	2808.2	34.9

TABLE 7.91
VLBI BASELINE EVOLUTION
HRAS 085 TO PT REYES

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
85 3 13	1921015676.7	12.8	-1103.3 17.0	4719.3	60.3
85 10 19	1921015691.8	8.8	-1122.6 8.2	4744.9	46.2

TABLE 7.92
VLBI BASELINE EVOLUTION
HRAS 085 TO ROBLED32

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
83 5 5	7975530283.6	51.6	-197.4 145.2	-60.0	173.6

TABLE 7.93
VLBI BASELINE EVOLUTION
HRAS 085 TO VERNAL

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
86 3 30	1187981339.3	6.5	5.7 5.4	.3	36.8
87 5 6	1187981355.5	4.9	16.9 5.5	-143.5	24.3

TABLE 7.94
VLBI BASELINE EVOLUTION
HRAS 085 TO YELLOWKN

DATE	LENGTH		FORMAL ERR	TRANSVERSE		VERTICAL	FORMAL ERR
	(mm)			(mm)	FORMAL ERR	(mm)	
84 8 24	3572069857.6		11.6	-480.3	13.1	4193.6	38.0
85 9 4	3572069855.6		16.9	-487.7	10.2	4101.2	50.5

TABLE 7.95
VLBI BASELINE EVOLUTION
JPL MV1 TO MAMMOTHL

DATE	LENGTH		FORMAL ERR	TRANSVERSE		VERTICAL	FORMAL ERR
	(mm)			(mm)	FORMAL ERR	(mm)	
83 6 29	387649698.3		11.5	-1756.9	8.5	3263.3	75.1
84 4 9	387649717.3		13.9	-1723.6	7.7	3245.7	101.7
84 10 22	387649683.2		20.1	-1741.5	12.6	3136.7	140.0
86 10 22	387649660.0		6.1	-1725.8	3.8	3329.6	41.4

TABLE 7.96
VLBI BASELINE EVOLUTION
JPL MV1 TO MON PEAK

DATE	LENGTH		FORMAL ERR	TRANSVERSE		VERTICAL	FORMAL ERR
	(mm)			(mm)	FORMAL ERR	(mm)	
82 10 16	218307740.7		9.0	-2689.5	8.9	4612.6	93.4

TABLE 7.97
VLBI BASELINE EVOLUTION
JPL MV1 TO QUINCY

DATE	LENGTH		FORMAL ERR	TRANSVERSE		VERTICAL	FORMAL ERR
	(mm)			(mm)	FORMAL ERR	(mm)	
82 10 21	685704758.4		75.4	-730.3	40.4	5052.1	488.6

TABLE 7.98
VLBI BASELINE EVOLUTION
KASHIMA TO RICHMOND

DATE	LENGTH (mm)	FORMAL ERR	TRANSVERSE (mm)	FORMAL ERR	VERTICAL (mm)	FORMAL ERR
87 4 29	10279840787.5	54.2	63.1	35.3	-96.5	63.8
87 5 29	10279840798.0	43.3	67.1	34.7	5.6	54.8
87 6 28	10279840661.0	58.9	112.1	36.7	4.0	69.1
87 8 27	10279840726.3	60.8	84.7	36.5	21.9	77.1
87 10 21	10279840876.8	46.9	52.1	35.3	-71.8	58.0
87 11 30	10279840937.6	37.3	55.6	34.5	15.3	50.4

TABLE 7.99
VLBI BASELINE EVOLUTION
KASHIMA TO SESHAN25

DATE	LENGTH (mm)	FORMAL ERR	TRANSVERSE (mm)	FORMAL ERR	VERTICAL (mm)	FORMAL ERR
87 6 9	1875920301.3	42.3	-197.1	21.6	508.1	114.5

TABLE 7.100
VLBI BASELINE EVOLUTION
KASHIMA TO SHANGHAI

DATE	LENGTH (mm)	FORMAL ERR	TRANSVERSE (mm)	FORMAL ERR	VERTICAL (mm)	FORMAL ERR
86 6 13	1852075324.8	40.7	30.6	29.6	536.2	198.0

TABLE 7.101
VLBI BASELINE EVOLUTION
KAUAI TO SESHAN25

DATE	LENGTH (mm)	FORMAL ERR	TRANSVERSE (mm)	FORMAL ERR	VERTICAL (mm)	FORMAL ERR
87 6 9	7310293984.3	52.1	-198.5	40.8	486.2	110.0

TABLE 7.102
VLBI BASELINE EVOLUTION
KAUAI TO SHANGHAI

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	
86 6 13	7290812812.6	75.8	55.7 37.7	913.8	190.4

TABLE 7.103
VLBI BASELINE EVOLUTION
KODIAK TO MOJAVE12

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	
87 7 15	3574416148.4	12.3	-548.6 14.7	-3010.4	42.6
87 7 17	3574416142.7	10.5	-546.0 11.2	-3073.5	35.9

TABLE 7.104
VLBI BASELINE EVOLUTION
KODIAK TO NOME

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	
84 7 23	1024053305.6	18.8	-1777.1 14.1	1122.7	123.4
85 7 18	1024053282.0	15.7	-1779.6 8.5	1082.5	87.1
86 7 22	1024053268.4	9.4	-1791.1 6.4	1231.3	62.0
86 7 24	1024053272.9	9.0	-1781.9 6.8	1102.8	54.7

TABLE 7.105
VLBI BASELINE EVOLUTION
KODIAK TO VNDNBERG

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	
84 7 23	3459022187.9	38.7	-439.8 30.2	3187.7	131.3
85 7 18	3459022105.7	32.5	-502.5 20.7	3068.1	121.9
86 7 22	3459022111.0	13.6	-461.9 10.9	3254.3	47.4
86 7 24	3459022070.6	14.1	-471.9 14.3	3151.8	48.3

TABLE 7.106
VLBI BASELINE EVOLUTION
MAMMOTHL TO MOJAVE12

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
83 6 29	315785216.3	10.8	-113.3 8.4	-2947.3	69.5
84 4 9	315785195.2	9.8	-106.9 6.8	-2900.4	65.5
84 10 22	315785203.9	14.0	-115.4 9.1	-2930.8	98.4
86 10 22	315785221.9	3.9	-137.2 2.9	-3020.5	27.0

TABLE 7.107
VLBI BASELINE EVOLUTION
MAMMOTHL TO OVRO 130

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
83 6 29	74255496.9	10.1	-168.7 9.0	-3005.0	68.4
84 4 9	74255477.4	6.6	-161.9 7.1	-3008.5	61.0
84 10 22	74255486.8	11.9	-168.1 10.4	-2950.7	102.9
86 10 22	74255497.4	3.0	-177.4 3.2	-2976.7	30.6

TABLE 7.108
VLBI BASELINE EVOLUTION
MAMMOTHL TO VNDNBERG

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
84 10 22	373995470.8	13.9	238.7 11.1	3679.1	101.0
86 10 22	373995441.0	4.2	295.6 2.8	3561.3	27.3

TABLE 7.109
VLBI BASELINE EVOLUTION
MARPOINT TO ONSALA60

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
82 6 18	6198441023.9	16.8	-190.7 354.5	574.7	344.1
82 6 19	6198441015.3	24.0	-121.3 289.6	570.3	283.2
82 10 18	6198441017.1	26.8	84.6 112.0	25.3	159.7
83 8 29	6198440992.8	69.7	-162.8 115.1	64.8	266.4

TABLE 7.110
VLBI BASELINE EVOLUTION
MARPOINT TO OVRO 130

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
82 6 18	3540824475.8	12.2	-120.3 160.8	-57.8	255.3
82 6 19	3540824468.8	18.4	-45.2 132.0	18.6	218.3
82 10 18	3540824459.5	15.1	29.4 37.2	210.0	79.5

TABLE 7.111
VLBI BASELINE EVOLUTION
MARPOINT TO WESTFORD

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
82 6 18	676178919.7	5.6	-28.1 32.2	118.5	45.5
82 6 19	676178900.8	9.1	-28.0 26.8	141.7	52.0
82 10 18	676178915.7	7.2	-22.1 10.6	35.5	42.0
83 8 29	676178896.7	23.4	-21.2 19.6	26.3	104.8

TABLE 7.112
VLBI BASELINE EVOLUTION
MEDICINA TO ONSALA60

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
87 5 3	1429470407.0	8.5	39.4 12.6	34.0	46.7
87 12 8	1429470388.1	3.4	41.3 6.8	102.3	14.6
87 12 9	1429470396.4	3.0	31.5 4.0	42.0	13.2

TABLE 7.113
VLBI BASELINE EVOLUTION
MEDICINA TO RICHMOND

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
87 4 3	7658214900.5	132.1	-149.9 18.1	128.0	177.5
87 5 3	7658214838.8	38.1	-116.0 11.6	57.9	58.0
87 12 9	7658214805.3	27.2	-154.3 9.7	136.5	37.3
87 12 18	7658214889.6	32.9	-112.1 70.4	-134.7	77.0

TABLE 7.114
VLBI BASELINE EVOLUTION
MEDICINA TO WESTFORD

DATE	LENGTH		FORMAL ERR	TRANSVERSE		VERTICAL	FORMAL ERR
	(mm)			(mm)	FORMAL ERR	(mm)	FORMAL ERR
87 4 3	6144872345.8		106.8	-84.4	14.2	55.5	192.3
87 5 3	6144872317.8		22.3	-57.2	8.7	-25.9	45.5
87 12 8	6144872331.3		7.4	-73.7	18.9	13.7	28.4
87 12 9	6144872333.5		8.3	-82.7	6.1	-25.1	20.9
87 12 18	6144872365.5		27.8	-77.6	65.0	-186.5	67.7

TABLE 7.115
VLBI BASELINE EVOLUTION
MEDICINA TO WETTZELL

DATE	LENGTH		FORMAL ERR	TRANSVERSE		VERTICAL	FORMAL ERR
	(mm)			(mm)	FORMAL ERR	(mm)	FORMAL ERR
87 4 3	522461121.7		18.8	38.0	24.4	15.1	217.9
87 5 3	522461140.5		6.0	24.6	11.4	-60.8	40.6
87 12 8	522461128.5		2.4	28.0	4.5	-24.9	10.9
87 12 9	522461127.4		1.9	26.7	2.8	-14.3	10.1

TABLE 7.116
VLBI BASELINE EVOLUTION
MOJ 7288 TO MOJAVE12

DATE	LENGTH		FORMAL ERR	TRANSVERSE		VERTICAL	FORMAL ERR
	(mm)			(mm)	FORMAL ERR	(mm)	FORMAL ERR
87 11 1	358196.6		1.3	-42.4	1.8	76.6	11.7

TABLE 7.117
VLBI BASELINE EVOLUTION
MOJ 7288 TO OVR 7853

DATE	LENGTH		FORMAL ERR	TRANSVERSE		VERTICAL	FORMAL ERR
	(mm)			(mm)	FORMAL ERR	(mm)	FORMAL ERR
87 11 1	245751410.8		2.2	4.4	2.0	-33.5	12.7

TABLE 7.118
VLBI BASELINE EVOLUTION
MOJ 7288 TO OVRO 130

DATE	LENGTH (mm)	FORMAL ERR	TRANSVERSE (mm)	FORMAL ERR	VERTICAL (mm)	FORMAL ERR
87 11 1	245135038.6	2.0	-10.3	1.9	3.8	12.4

TABLE 7.119
VLBI BASELINE EVOLUTION
MOJAVE12 TO OCOTILLO

DATE	LENGTH (mm)	FORMAL ERR	TRANSVERSE (mm)	FORMAL ERR	VERTICAL (mm)	FORMAL ERR
84 3 3	299368597.0	24.2	13.9	17.7	3220.9	146.5
85 1 15	299368625.3	8.0	30.7	4.8	3149.2	56.4
85 3 4	299368637.6	6.1	15.3	3.9	2988.6	47.9

TABLE 7.120
VLBI BASELINE EVOLUTION
MOJAVE12 TO OVR 7853

DATE	LENGTH (mm)	FORMAL ERR	TRANSVERSE (mm)	FORMAL ERR	VERTICAL (mm)	FORMAL ERR
87 11 1	245893865.0	1.8	6.3	1.6	-109.9	7.5

TABLE 7.121
VLBI BASELINE EVOLUTION
MOJAVE12 TO PVERDES

DATE	LENGTH (mm)	FORMAL ERR	TRANSVERSE (mm)	FORMAL ERR	VERTICAL (mm)	FORMAL ERR
83 11 12	224483742.2	14.6	553.4	10.3	6668.3	105.8
85 3 4	224483713.9	5.7	600.9	4.6	6706.5	53.0
87 3 25	224483706.0	5.5	672.0	4.7	6737.9	32.9
87 12 8	224483715.2	4.2	683.0	3.8	6743.4	31.4

TABLE 7.122
VLBI BASELINE EVOLUTION
MOJAVE12 TO RICHMOND

DATE			LENGTH	FORMAL ERR	TRANSVERSE		VERTICAL	
			(mm)		(mm)	FORMAL ERR	(mm)	FORMAL ERR
84	1	4	3594692963.8	15.0	5.8	12.3	-41.4	57.6
85	6	12	3594692981.2	21.7	-16.0	12.4	-60.0	76.7

TABLE 7.123
VLBI BASELINE EVOLUTION
MOJAVE12 TO SNDPOINT

DATE	LENGTH		FORMAL ERR	TRANSVERSE		VERTICAL	
	(mm)			(mm)	FORMAL ERR	(mm)	FORMAL ERR
87 7 25	3916865792.6		498.5	-214.4	71.9	1247.3	1551.

TABLE 7.124
VLBI BASELINE EVOLUTION
MOJAVE12 TO SOURDOGH

DATE		LENGTH	FORMAL ERR	TRANSVERSE		VERTICAL	
		(mm)		(mm)	FORMAL ERR	(mm)	FORMAL ERR
87	8 20	3577769366.6	12.7	-432.5	11.8	4500.0	44.3
87	8 21	3577769331.1	11.1	-418.0	12.5	4580.1	37.8

TABLE 7.125
VLBI BASELINE EVOLUTION
MOJAVE12 TO VERNAL

DATE			LENGTH	FORMAL ERR	TRANSVERSE		VERTICAL	
			(mm)		(mm)	FORMAL ERR	(mm)	FORMAL ERR
86	3	30	848884600.0	5.4	39.5	5.5	-20.9	35.5
87	5	6	848884618.7	3.9	33.3	4.8	-168.9	21.6

TABLE 7.126
VLBI BASELINE EVOLUTION
MOJAVE12 TO YAKATAGA

DATE	LENGTH		TRANSVERSE		VERTICAL	
	(mm)	FORMAL ERR	(mm)	FORMAL ERR	(mm)	FORMAL ERR
87 8 13	3273878581.1	8.9	-298.8	12.6	3048.7	33.6
87 8 14	3273878581.0	9.2	-278.4	12.7	3051.4	36.3

TABLE 7.127
VLBI BASELINE EVOLUTION
NOME TO SNDPOINT

DATE	LENGTH		TRANSVERSE		VERTICAL	
	(mm)	FORMAL ERR	(mm)	FORMAL ERR	(mm)	FORMAL ERR
84 7 14	1060002844.7	30.7	-930.1	24.9	-1238.7	177.3
85 7 25	1060002859.6	11.2	-871.7	8.0	-1361.6	65.0
86 7 31	1060002865.2	8.5	-886.1	5.7	-1238.2	54.3

TABLE 7.128
VLBI BASELINE EVOLUTION
NRAO 140 TO ONSALA60

DATE	LENGTH		TRANSVERSE		VERTICAL	
	(mm)	FORMAL ERR	(mm)	FORMAL ERR	(mm)	FORMAL ERR
81 11 18	6319317484.4	34.6	-401.3	237.6	-374.4	184.0
81 11 19	6319317524.8	17.2	-257.1	128.5	-205.9	178.2
82 12 15	6319317556.4	31.0	198.7	173.0	-416.1	228.7
82 12 16	6319317475.0	17.6	203.0	143.2	-81.4	179.2

TABLE 7.129
VLBI BASELINE EVOLUTION
NRAO 140 TO WESTFORD

DATE	LENGTH		TRANSVERSE		VERTICAL	
	(mm)	FORMAL ERR	(mm)	FORMAL ERR	(mm)	FORMAL ERR
81 11 18	844148077.7	3.5	-8.3	10.9	9.0	24.1
81 11 19	844148084.8	4.7	-6.5	12.4	24.8	30.6
82 12 15	844148089.4	9.8	5.7	17.6	-50.7	47.5
82 12 16	844148073.6	4.5	15.9	13.1	-75.1	28.0

TABLE 7.130
VLBI BASELINE EVOLUTION
OCOTILLO TO OVRO 130

DATE	LENGTH (mm)	FORMAL ERR	TRANSVERSE (mm)	FORMAL ERR	VERTICAL (mm)	FORMAL ERR
85 3 4	542313240.4	7.9	20.8	4.9	-3094.3	50.9

TABLE 7.131
VLBI BASELINE EVOLUTION
OCOTILLO TO PVERDES

DATE	LENGTH (mm)	FORMAL ERR	TRANSVERSE (mm)	FORMAL ERR	VERTICAL (mm)	FORMAL ERR
85 3 4	264927261.1	6.2	-99.6	6.8	3726.1	65.7

TABLE 7.132
VLBI BASELINE EVOLUTION
OCOTILLO TO VNDNBERG

DATE	LENGTH (mm)	FORMAL ERR	TRANSVERSE (mm)	FORMAL ERR	VERTICAL (mm)	FORMAL ERR
84 3 3	487851094.1	27.5	109.6	29.9	3357.1	197.3
85 1 15	487851081.9	9.3	172.6	7.3	3482.5	59.9
85 3 4	487851103.2	6.8	147.2	5.2	3666.3	48.4

TABLE 7.133
VLBI BASELINE EVOLUTION
ONSALA60 TO ROBLD32

DATE	LENGTH (mm)	FORMAL ERR	TRANSVERSE (mm)	FORMAL ERR	VERTICAL (mm)	FORMAL ERR
83 5 5	2204783304.4	16.8	-102.7	65.9	-97.2	88.2

TABLE 7.134
VLBI BASELINE EVOLUTION
OVR 7853 TO OVRO 130

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
87 11 1	991123.4	1.1	-31.6 1.7	35.3	8.7

TABLE 7.135
VLBI BASELINE EVOLUTION
OVRO 130 TO PVERDES

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
83 11 12	387094617.0	18.5	675.7 10.3	6702.1	103.7
85 3 4	387094553.8	7.0	696.5 4.4	6802.0	55.2

TABLE 7.136
VLBI BASELINE EVOLUTION
OVRO 130 TO SANPAULA

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
83 8 31	322080173.1	11.1	41.4 9.6	3037.5	83.7

TABLE 7.137
VLBI BASELINE EVOLUTION
PENTICTN TO YELLOWKN

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
84 8 24	1495292872.8	15.2	90.2 8.6	1019.8	89.7
85 9 4	1495292894.9	12.1	106.5 6.8	1018.8	65.3

TABLE 7.138
VLBI BASELINE EVOLUTION
PINFLATS TO PVERDES

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
87 3 25	180972816.4	5.1	-3393.1	6.7	354.3 39.0
87 12 8	180972822.7	3.9	-3395.4	5.8	302.6 35.5

TABLE 7.139
VLBI BASELINE EVOLUTION
PLATTVIL TO VERNAL

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
86 3 30	412425199.4	4.8	89.2	7.1	-4043.9 46.7

TABLE 7.140
VLBI BASELINE EVOLUTION
PRESIDIO TO PT REYES

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
83 8 27	53727245.7	10.8	-1797.0	8.4	1821.6 69.6
84 2 26	53727252.5	44.5	-1858.1	41.9	1773.0 188.6
85 3 13	53727233.3	7.5	-1781.4	8.9	1528.7 76.9
85 10 19	53727234.2	4.6	-1787.7	5.2	1611.0 42.1

TABLE 7.141
VLBI BASELINE EVOLUTION
PRESIDIO TO YUMA

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
87 2 6	922582249.0	6.0	1.0	5.3	42.2 37.9

TABLE 7.142
VLBI BASELINE EVOLUTION
PT REYES TO YUMA

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
87 10 24	975980351.4	9.9	-1623.7 8.3	-1830.7	53.4

TABLE 7.143
VLBI BASELINE EVOLUTION
PVERDES TO VNDNBERG

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
83 11 12	223065163.7	21.9	316.9 32.7	-278.1	197.6
85 3 4	223065160.7	5.0	264.8 5.6	-33.0	56.0
87 3 25	223065168.8	4.8	278.0 5.3	-139.1	33.8
87 12 8	223065190.8	4.3	304.0 4.9	-89.2	34.2

TABLE 7.144
VLBI BASELINE EVOLUTION
ROBLED32 TO WESTFORD

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
83 5 5	5300463035.1	38.8	-234.5 126.4	29.8	135.7

TABLE 7.145
VLBI BASELINE EVOLUTION
SNDPOINT TO VNDNBERG

DATE	LENGTH (mm)	TRANSVERSE		VERTICAL	
		FORMAL ERR	(mm) FORMAL ERR	(mm) FORMAL ERR	FORMAL ERR
84 7 14	3763664144.2	53.9	-101.9 29.9	3342.0	196.9
85 7 25	3763664064.9	19.2	-90.6 16.3	3387.3	62.1
86 7 31	3763663992.2	15.4	-137.4 12.9	3216.7	48.9

TABLE 7.146
VLBI BASELINE EVOLUTION
SOURDOGH TO WHTHORSE

DATE	LENGTH		TRANSVERSE		VERTICAL	
	(mm)	FORMAL ERR	(mm)	FORMAL ERR	(mm)	FORMAL ERR
84 8 7	591316577.2	18.1	-419.0	14.7	-2012.0	152.6
86 8 18	591316577.9	5.3	-449.2	5.5	-2119.2	44.8
86 8 20	591316571.8	5.4	-456.8	4.6	-2193.1	46.9

TABLE 7.147
VLBI BASELINE EVOLUTION
SOURDOGH TO YAKATAGA

DATE	LENGTH		TRANSVERSE		VERTICAL	
	(mm)	FORMAL ERR	(mm)	FORMAL ERR	(mm)	FORMAL ERR
84 7 31	329299272.7	7.5	-112.0	6.1	-1591.4	63.9
85 8 5	329299241.3	5.5	-125.1	4.1	-1546.9	44.7
86 8 11	329299204.9	6.0	-118.0	4.5	-1649.6	48.8
86 8 13	329299185.0	7.5	-118.3	4.9	-1580.2	62.3

TABLE 7.148
VLBI BASELINE EVOLUTION
VNDNBERG TO WHTHORSE

DATE	LENGTH		TRANSVERSE		VERTICAL	
	(mm)	FORMAL ERR	(mm)	FORMAL ERR	(mm)	FORMAL ERR
84 8 7	3058395696.2	36.5	32.5	17.3	-3713.1	124.1
86 8 18	3058395595.9	12.2	107.5	12.3	-3749.1	42.5
86 8 20	3058395604.8	12.6	97.4	9.7	-3836.3	45.3

TABLE 7.149
VLBI BASELINE EVOLUTION
VNDNBERG TO YAKATAGA

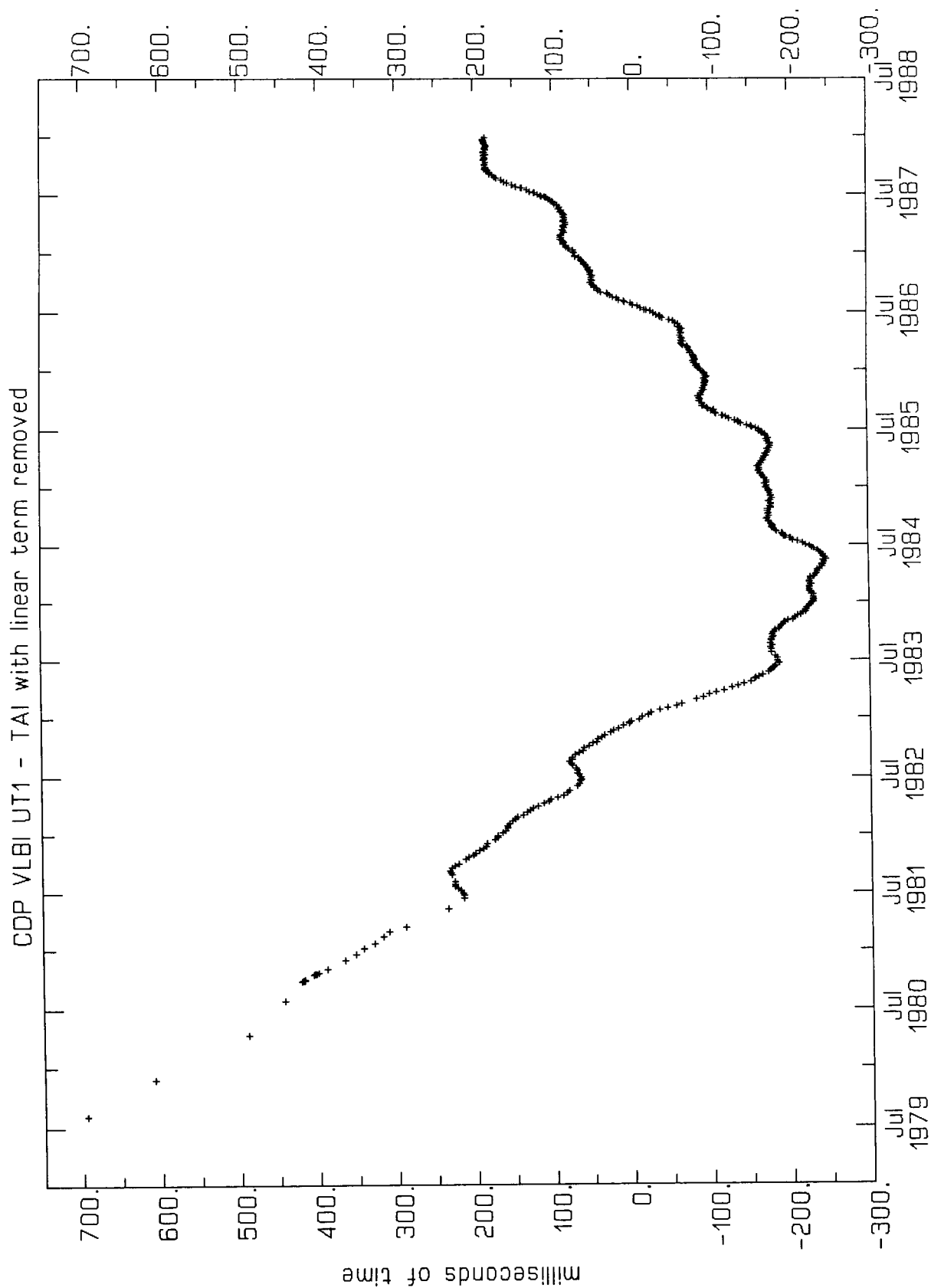
DATE	LENGTH		TRANSVERSE		VERTICAL	
	(mm)	FORMAL ERR	(mm)	FORMAL ERR	(mm)	FORMAL ERR
84 7 31	3214772157.1	24.7	-191.7	13.9	-3218.8	81.5
85 8 5	3214772156.8	14.1	-183.7	10.7	-3249.8	48.8
86 8 11	3214772150.5	13.6	-149.0	11.3	-3242.2	49.1
86 8 13	3214772172.6	16.3	-150.6	13.1	-3220.3	59.5

8.0 SITE COORDINATES

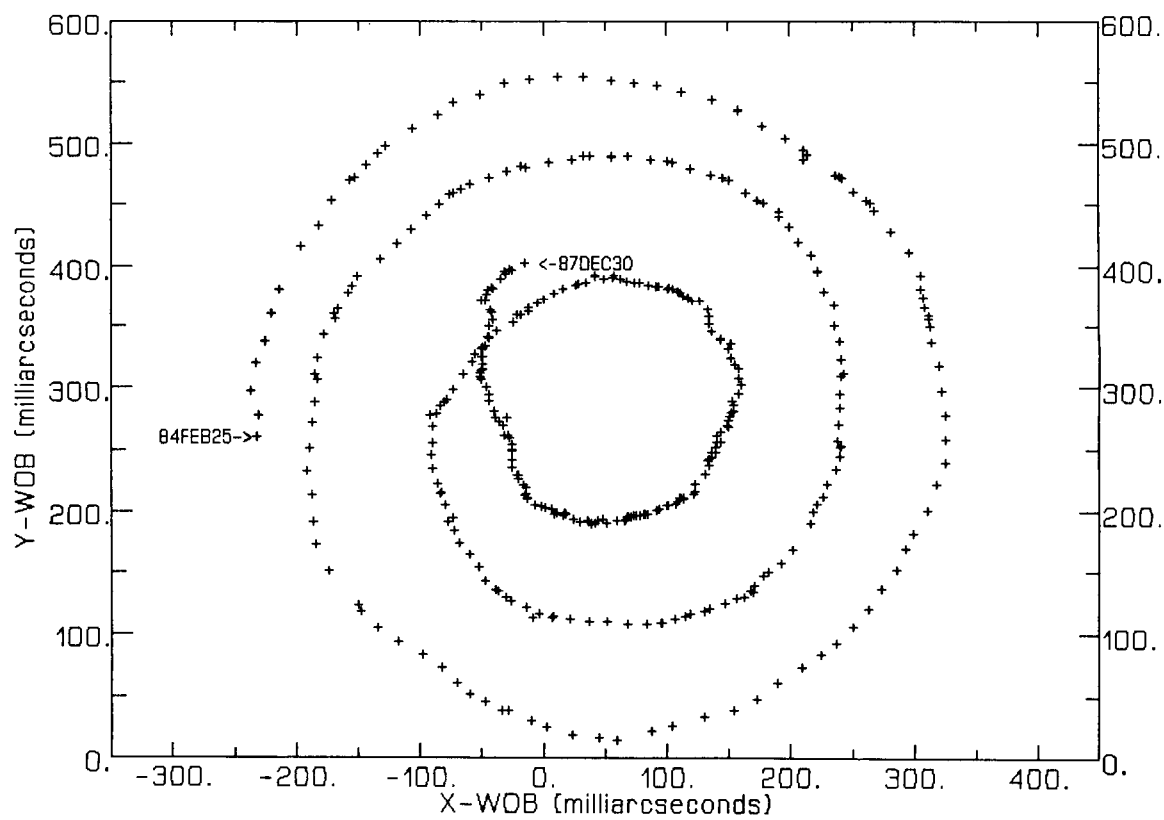
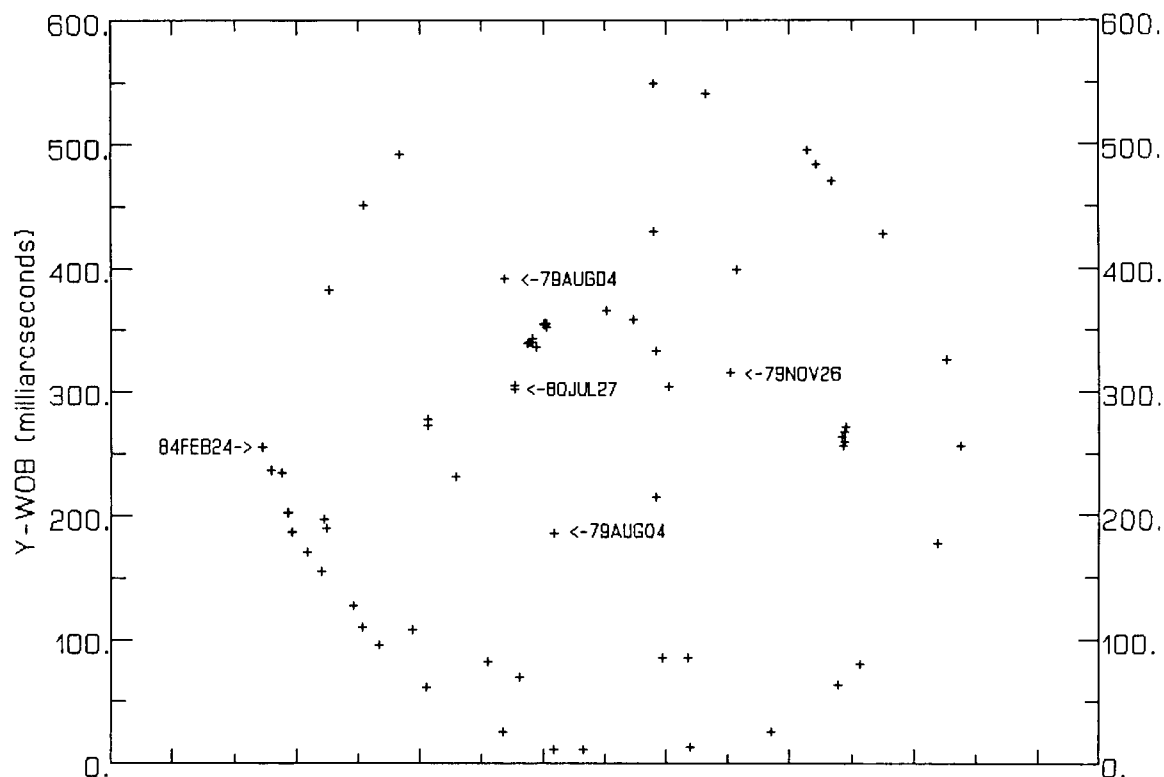
Tables 8.01 through 8.54 present geocentric, Cartesian site positions by experiment in the reference frame used for solution GLB405 and described in the text. The user is reminded that the position at a particular epoch is relative to the (arbitrary) reference station for that session and that different observing sessions having unrelated observing networks will have different reference stations. Fifty-four of the 55 stations and/or sites appearing in Tables 1.1 and 1.2 are tabulated. HAYSTACK does not appear as it is always the reference station. Tables 8.01 through 8.54 are only available in the machine-readable version.

9.0 EARTH ROTATION RESULTS from SOLUTION GLB401

Plot 9-1 shows the value of UT1-TAI in milliseconds of time for the period from 1979 through 1987 with a linear term removed. This term was determined by least squares to have a slope of -611.176 msec/yr. Formal errors of the points are of the order 30 to 300 microseconds. Error bars have been omitted for clarity. Plot 9-2 shows the pole in milliarcseconds for the period August 3, 1979 through February 24, 1984 (upper plot) and February 25, 1984 through December 30, 1987 (lower plot). Formal errors of the pole components are of the order 100 to 300 marcsec. Once again, error bars have been omitted for clarity. The UT1-TAI and pole plots include all relevant data (fixed station CDP, POLARIS, and IRIS). The actual data plotted in 9-1 (without the linear term removed) and 9-2 are available in the machine-readable version. The tabulated values also indicate whether a data point comes from CDP, POLARIS, or IRIS data.



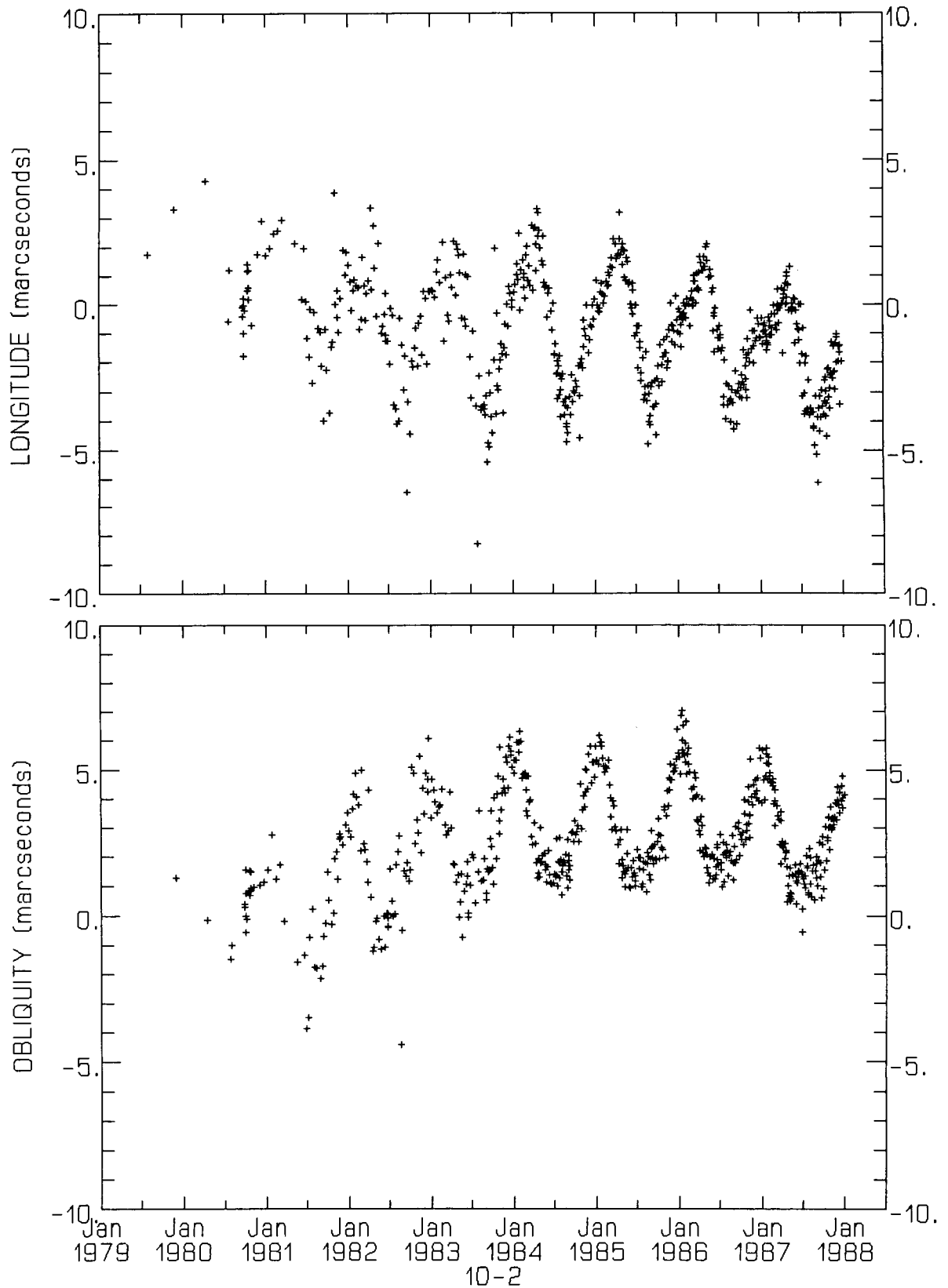
CDP VLBI Polar Motion



10.0 NUTATION ADJUSTMENTS from SOLUTION GLB401

Plot 10-1 shows the nutation offsets $\delta(\epsilon)$ and $\delta(\psi)\sin(\epsilon)$ from the IAU 1980 nutation series, estimated in solution GLB401 for the period 1979 through 1987. The longitude values have been multiplied by the sine of the obliquity of the ecliptic for plotting only. The values of the longitude and obliquity are in units of milliarcseconds, with formal errors of the order of 0.8 to 3 marcsec in longitude and 0.3 to 1.3 marcsec in obliquity. Error bars have been omitted for clarity. The data plotted in 10-1 are available in the machine-readable version.

CDP VLBI Nutation Offsets to IAU 1980





Report Documentation Page

1. Report No. NASA TM-100723	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle Crustal Dynamics Project Data Analysis - 1988 VLBI Geodetic Results 1979-1987		5. Report Date February 1989	
		6. Performing Organization Code 621.0	
7. Author(s) C. Ma, J.W. Ryan, and D. Caprette		8. Performing Organization Report No. 89B00094	
		10. Work Unit No.	
9. Performing Organization Name and Address Code 621 Goddard Space Flight Center Greenbelt, Maryland 20771		11. Contract or Grant No.	
		13. Type of Report and Period Covered Technical Memorandum	
12. Sponsoring Agency Name and Address National Aeronautics and Space Administration Washington, D.C. 20546-0001		14. Sponsoring Agency Code	
15. Supplementary Notes The contents are available in machine-readable form, on magnetic tape and on floppy disk, from the Crustal Dynamics Project Data Information System (CDP-DIS). D. Caprette - ST Systems Corporation, Lanham, Maryland. C. Ma and J.W. Ryan - Goddard Space Flight Center, Greenbelt, Maryland.			
16. Abstract The Goddard VLBI group reports the results of analyzing 712 Mark III data sets acquired from fixed and mobile observing sites through the end of 1987 and available to the Crustal Dynamics Project. A large solution, GLB401, was used to obtain earth rotation parameters and site velocities. A second large solution, GLB405, was used to obtain baseline evolutions. Radio source positions were estimated globally while nutation offsets were estimated from each data set. Site positions are tabulated on a yearly basis from 1979 through 1988. The results include 55 sites and 270 baselines.			
17. Key Words (Suggested by Author(s)) Geodesy Crustal Dynamics Earth Rotation Tectonics		18. Distribution Statement Unclassified - Unlimited Subject Category 46	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of pages	22. Price